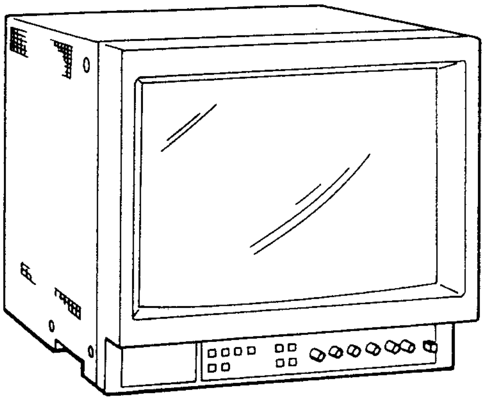
PVM-1450MD

SERVICE MANUAL

AEP Model
Chassis No. SCC-H29D-A



SPECIFICATIONS

Video signal

Color system	PAL, SECAM, NTSC, NTSC$_{4.43}$
Resolution	450 TV lines
Aperture correction	0 dB – +6.0 dB
Frequency response	LINE 9.0 MHz (–3 dB) RGB 10.0 MHz (–3 dB)
Synchronization	AFC time constant 1.0 msec.

Picture performance

Normal scan	7% overscan of CRT effective screen area
Linearity	Horizontal: Less than 4.0% (typical) Vertical: Less than 4.0% (typical)
Raster size stability	H 1.0%, V 1.5%
High voltage regulation	3.5%
CRT	P22 phosphor
Color temperature	6500K

Inputs

Y/C IN	4-pin mini DIN connector *See the pin assignment.*
VIDEO IN	BNC connector, 1 Vp-p ±6 dB, sync negative
AUDIO IN	phono jack, –5 dBu, more than 47k ohms
R IN, G IN, B IN	BNC connector, 0.7 Vp-p ±6 dB
Sync on green	1 Vp-p Composite sync negative, 75 ohms terminated
RGB SYNC IN	BNC connector, Composite sync 4 Vp-p ±6 dB, negative

Outputs

Y/C OUT	4-pin mini DIN connector, 75 ohms terminated
VIDEO OUT	BNC connector, 75 ohms terminated
AUDIO OUT	phono jack
Speaker output	Output level 0.8 W

– Continued on next page –

TRINITRON® COLOR VIDEO MONITOR

SONY®

MICROFILM

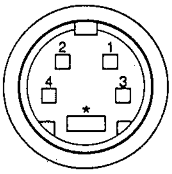
General

Classification of equipment	
– Type of protection against electric shock	Class I equipment
– Degree of protection against electric shock	Type B equipment
– Degree of protection against harmful ingress of water	Ordinary equipment
– Degree of safety of application in the presence of a flammable anaesthetic mixture	Not protected equipment
– Mode of operation	Continuous operation
– Information concerning type and frequency of technical maintenance	Not need maintenance equipment
– Main power switch	Functional switch
Power requirements	100 – 240 V AC, 50/60 Hz 0.9 – 0.4A
Operating temperature range	0 – +35°C (32 – 95°F)
Storage temperature range	–10 – +40°C (14 – 104°F)
Humidity	0 – 90%
Pressure	860 – 1060 hpa
Dimensions	Approx. 346 × 340 × 411.5 mm (w/h/d) ($13^{5}/_{8}$ × $13^{1}/_{2}$ × $16^{1}/_{4}$ inches) not incl. projecting parts and controls
Mass	Approx. 16.7 kg (36 lb 14 oz)
Accessory supplied	AC power cord (1) AC plug holder (1) Instructions for use (1) Sales Companies Guide (1)

0 dBu = 0.775 Vr. m. s.

Pin assignment

Y/C IN connector (4-pin mini DIN)



Pin No.	Signal	Description
1	Y-input	1 Vp-p, sync negative, 75 ohms
2	CHROMA sub-carrier-input	300 mVp-p, burst Delay time between Y and C: within 0±100 nsec., 75 ohms
3	GND for Y-input	GND
4	GND for CHROMA-input	GND

Design and specifications are subject to change without notice.

(CAUTION)

SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR CARBON PAINTED ON THE CRT, AFTER REMOVING THE ANODE.

WARNING!!

AN ISOLATION TRANSFORMER SHOULD BE USED DURING ANY SERVICE TO AVOID POSSIBLE SHOCK HAZARD, BECAUSE OF LIVE CHASSIS.

THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE AC POWER LINE.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY. CIRCUIT ADJUSTMENTS THAT ARE CRITICAL TO SAFE OPERATION ARE IDENTIFIED IN THIS MANUAL. FOLLOW THESE PROCEDURES WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.

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SECTION 1
GENERAL

The operating instructions mentioned here are partial abstracts from the Operating Instruction Manual. The page numbers of the Operating Instruction Manual remain as in the manual.

Features

Fine Pitch Trinitron[1] picture tube
Fine Pitch Trinitron tube provides a high resolution picture. Horizontal resolution is more than 450 TV lines at the center of the picture.

[1] "Trinitron" is a registered trademark of Sony Corporation.

Four color systems available
The monitor can display PAL, SECAM, NTSC and $\mathrm{NTSC}_{4.43}$[2] signals. The appropriate color system is selected automatically.

[2] A signal of $\mathrm{NTSC}_{4.43}$ is used for playing back NTSC recorded video cassettes with a video tape recorder/player especially designed for use with this system.

Beam current feedback circuit
The built-in beam current feedback circuit assures stable white balance.

Analog RGB input connectors
Analog RGB signals from video equipment can be input through these connectors.

Y/C input connector (S input connector)
The video signal, split into the chrominance signal (C) and the luminance signal (Y), can be input through this connector, eliminating the interference between the two signals, which tends to occur in a composite video signal, assuring video quality.

Automatic termination (connector with -∧∨- mark only)
The input connector is terminated at 75 ohms inside when no cable is connected to the loop-through output connectors. When a cable is connected to an output connector, the 75-ohms termination is automatically released.

On-screen menus
You can set CHROMA SET UP and other settings by using the on-screen menus.

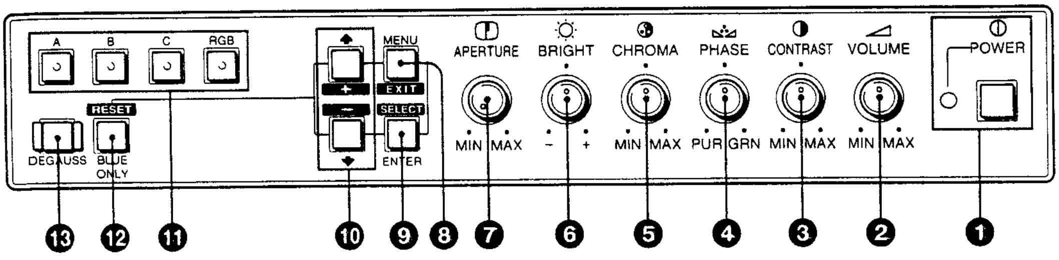
Auto/manual degaussing
Degaussing of the screen can be performed automatically when the power is turned on, or manually by pressing the DEGAUSS button.

Five menu languages
You can select the menu language from among the five languages on the menu.

EIA standard 19-inch rack mounting
By using an MB-502B mounting bracket (not supplied), the monitor can be mounted in an EIA standard 19-inch rack. For details on mounting, see the instruction manual of the mounting bracket kit.

Location and Function of Parts and Controls

Front Panel



❶ **⏻ POWER switch and indicator**
Depress to turn the monitor on. The indicator will light up in green. To turn the power off, press this again.

❷ **◿ VOLUME control**
Turn this control clockwise or counterclockwise to obtain the desired volume.

❸ **◑ CONTRAST control**
Turn clockwise to make the contrast stronger and counterclockwise to make it weaker.

❹ **PHASE control**
This control is effective only for the NTSC color system. Turn clockwise to make the skin tones greenish and counterclockwise to make them purplish.

❺ **◕ CHROMA (chrominance) control**
Turn clockwise to make the color intensity stronger and counterclockwise to make it weaker.

❻ **☼ BRIGHT (brightness) control**
Turn clockwise for more brightness and counterclockwise for less.

❼ **APERTURE control**
Turn clockwise for more sharpness and counterclockwise for less.
When the control is set to MIN, the picture becomes flat without need for corrections.

Note

The PHASE (❹), CHROMA (❺), and APERTURE (❼) control settings have no effect on the pictures of RGB signals.

❽ **MENU (EXIT) button**
Press to make the menu appear.
Press to return to the previous screen in the menu.

❾ **ENTER (SELECT) button**
Press to decide a selected item in the menu.

❿ **↑ (+)/ ↓ (–) buttons**
Press to move the cursor (▶) or adjust selected value in the menus.

⓫ **Input select buttons**
Press (light on) to select the program to be monitored.
A: for a signal fed through the LINE A connectors.
B: for a signal fed through the LINE B connectors.
C: for a signal fed through the LINE C connectors.
RGB: for a signal fed through the RGB connectors.

⓬ **BLUE ONLY selector**
Press (light on) to turn off the red and green signals. A blue signal is displayed as an apparent monochrome picture on the screen. This facilitates “chroma” and “phase[1]” control adjustments and observation of VCR noise.

[1] “Phase” control adjustment is effective only for the NTSC signals.

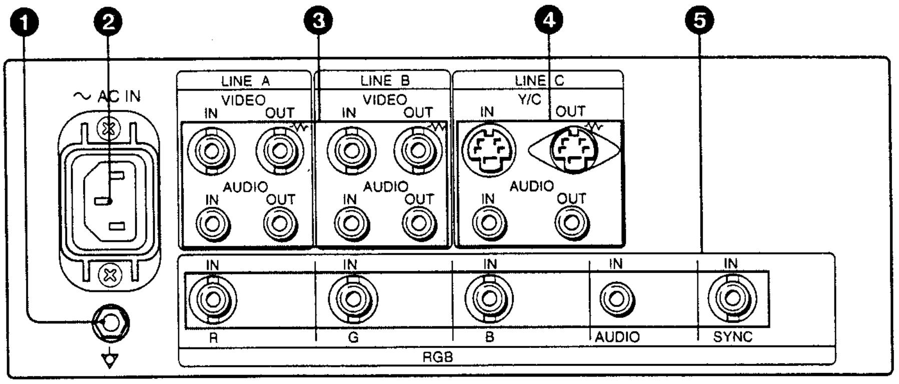
RESET button
During menu adjustments, press to reset the setting in the menu.

⓭ **DEGAUSS button**
Press this button momentarily. The screen will be demagnetized. Wait for 10 minutes or more before activating this button again.

Note

The picture rolls vertically while the screen is being demagnetized.

Rear Panel



Note

Before connecting the video equipment, see "**Important safeguards/notices for use in the medical environments**" on page 2.

(The -/\/\- mark indicates automatic termination.)

❶ **Ground (⏚) terminal**
Connect a GND cable.

❷ **AC IN socket**
Connect the supplied AC power cord to this socket.

❸ **LINE A, LINE B connectors**
Two groups (A and B) of line input connectors for the composite video and audio signals and their loop-through output connectors.
To monitor the input signal fed through these connectors, press the A or B input select button (light on) on the front panel.

VIDEO IN (BNC)
Connect to the video output connector of video equipment, such as a VCR or a color video camera. For a loop-through connection, connect to the video output connector of another monitor.
VIDEO OUT (BNC)
Loop-through output of the VIDEO IN connector. Connect to the video input connector for a VCR or another monitor.
When the cable is connected to this connector, the 75-ohms termination of the input is automatically released, and the signal input to the VIDEO IN connector is output from this connector.
AUDIO IN (phono jack)
Connect to the audio output connector of a VCR or to a microphone through a suitable microphone amplifier. For a loop-through connection, connect to the audio output connector of another monitor.
AUDIO OUT (phono jack)
Loop-through output of the AUDIO IN connector. Connect to the audio input connector of a VCR or another monitor.

❹ **LINE C connectors**
Separated Y/C input connectors, audio input connectors, and corresponding loop-through output connectors.
To monitor the input signal fed through these connectors, press the C input select button (light on) on the front panel.

Y/C IN (4-pin mini DIN)
Connect to the Y/C separate output connector of a VCR, video camera or other video equipment.
Y/C OUT (4-pin mini DIN)
Loop-through output of the Y/C IN connector. Connect to the Y/C separate input connector of a VCR or another monitor.
When the cable is connected to this connector, the 75-ohms termination of the input is automatically released, and the signal input to the Y/C IN connector is output from this connector.
AUDIO IN (phono jack)
Connect to the audio output connector of a VCR or to a microphone through a suitable microphone amplifier. For a loop-through connection, connect to the audio output connector of another monitor.
AUDIO OUT (phono jack)
Loop-through output of the AUDIO IN connector. Connect to the audio input connector of a VCR or another monitor.

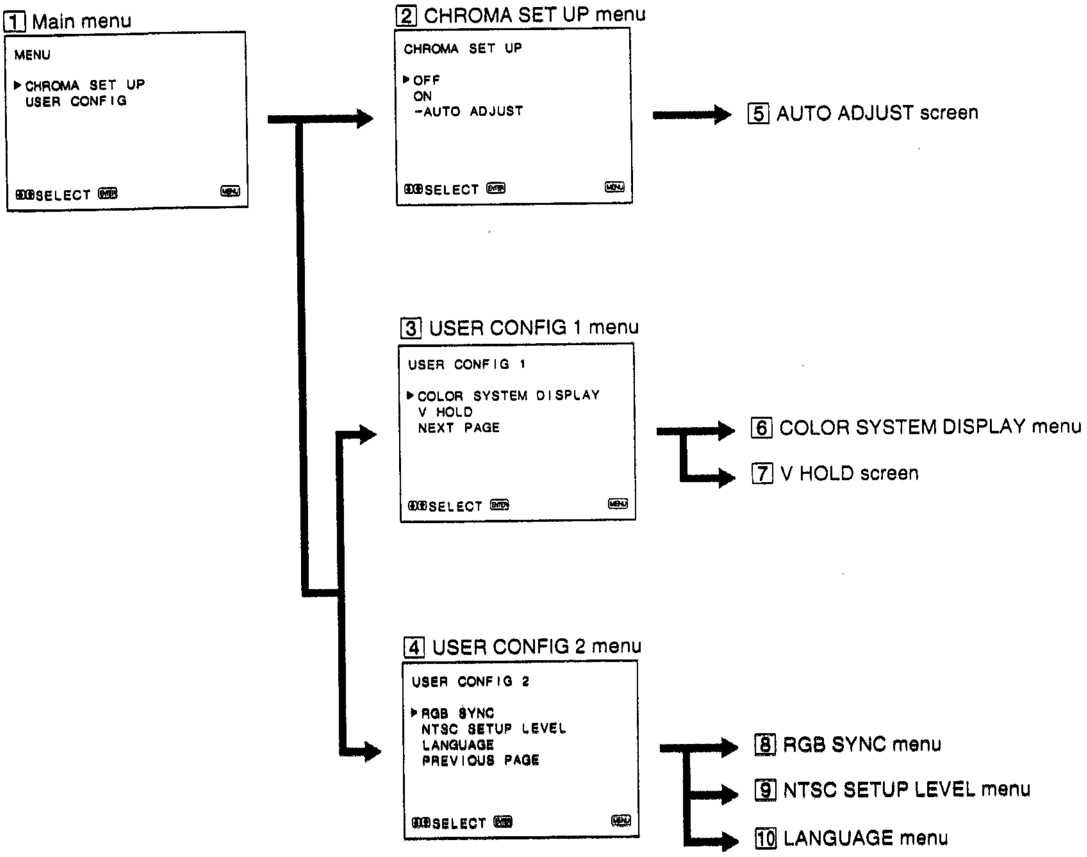
❺ **RGB IN connectors**
Connect to the analog RGB output connectors of a VCR, video camera, or other video equipment.
To monitor the input signal fed through these connectors, press RGB input select button (light on) on the front panel.

R IN, G IN, B IN (BNC)
When you set RGB SYNC to SYNC ON G in the menu, the monitor operates on the sync signal from the G channel.
AUDIO IN (phono jack)
Connect to the audio output connector of video equipment when the analog RGB signal is input.
SYNC IN (BNC)
To use the sync signal fed through this connector, set RGB SYNC to EXT SYNC in the menu.

Using On-Screen Menus

Menu Configuration

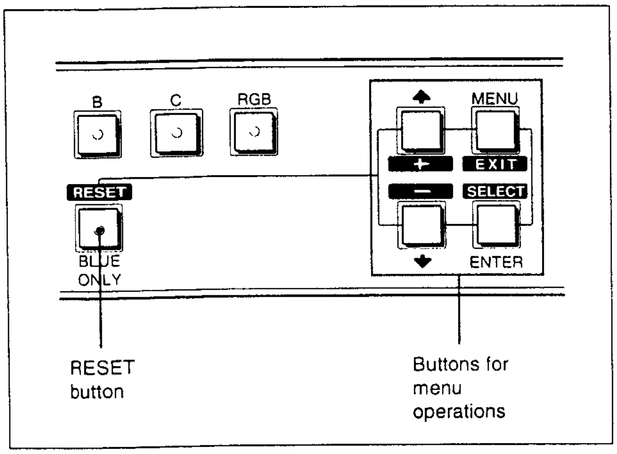
The flow chart shows the different levels of on-screen menus that you can use to make various adjustments and settings.
For details of each menu, see page 7.


1 Main menu
MENU
▶CHROMA SET UP
USER CONFIG
SELECT
2 CHROMA SET UP menu
CHROMA SET UP
▶OFF
ON
-AUTO ADJUST
SELECT
5 AUTO ADJUST screen
3 USER CONFIG 1 menu
USER CONFIG 1
▶COLOR SYSTEM DISPLAY
V HOLD
NEXT PAGE
SELECT
6 COLOR SYSTEM DISPLAY menu
7 V HOLD screen
4 USER CONFIG 2 menu
USER CONFIG 2
▶RGB SYNC
NTSC SETUP LEVEL
LANGUAGE
PREVIOUS PAGE
SELECT
8 RGB SYNC menu
9 NTSC SETUP LEVEL menu
10 LANGUAGE menu

Operating through Menus

There are five buttons for menu operations on the front panel of the monitor. To display the main menu, first press MENU (EXIT). The buttons you can use appear at the bottom of the menu screen.

Functions of the buttons



Button	To select menu item	To adjust selected menu item
MENU EXIT	return to the previous menu.	return to the previous menu.
ENTER SELECT	decide a selected item.	select an item.
↑ +	move the cursor (▶) upwards.	increase selected value.
− ↓	move the cursor (▶) downwards.	decrease selected value.
RESET		reset current adjustment value to the factory setting.

(The above items in white type correspond to the marks in the menu.)

The Contents of Menu Items

The following sentences show the details of each menu items.
[ ] indicates the factory setting position.

$\boxed{1}$ **Main menu**
Select an item and press the ENTER (SELECT) button to go to the following menu.

$\boxed{2}$ **CHROMA SET UP menu**
Set to ON to adjust the internal decoder for CHROMA and PHASE (NTSC signal only) after AUTO ADJUST screen ($\boxed{5}$). [OFF]

$\boxed{3}$ **USER CONFIG 1 menu**
Select an item for adjustment of the monitor. To go to the USER CONFIG 2 menu select "NEXT PAGE".

$\boxed{4}$ **USER CONFIG 2 menu**
Select an item for adjustment of the monitor. To go to the USER CONFIG 1 menu select "PREVIOUS PAGE".

$\boxed{5}$ **AUTO ADJUST screen**
Select the color bar signal (full, SMPTE, EIA) and press the ENTER (SELECT) button to start automatic adjustment for CHROMA and PHASE. For these adjustments to be valid, you must select ON in CHROMA SET UP menu ($\boxed{2}$).

$\boxed{6}$ **COLOR SYSTEM DISPLAY menu**
Select the color system display mode. In AUTO, the kind of color system being used appears on the screen each time you change the signal input. [AUTO]

$\boxed{7}$ **V HOLD screen**
Adjust the vertical hold if the picture rolls vertically.

Note

If the rolling of the picture prevents you from watching the screen, select an input that has nothing connected.

$\boxed{8}$ **RGB SYNC menu**
Select SYNC ON G to operate the monitor on the sync signal from the displayed green signal.
Select EXT SYNC to operate the monitor on an external sync signal fed through the RGB SYNC connector. [SYNC ON G]

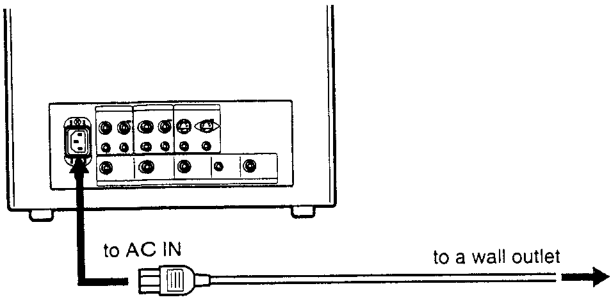
$\boxed{9}$ **NTSC SETUP LEVEL menu**
Select the NTSC setup level from two modes. The 7.5 setup level is mainly used in north America. The 0 setup level is mainly used in Japan. [0]

$\boxed{10}$ **LANGUAGE menu**
You can select the language used for on-screen menus from the following five languages (English, German, French, Italian, Spanish). [ENGLISH]

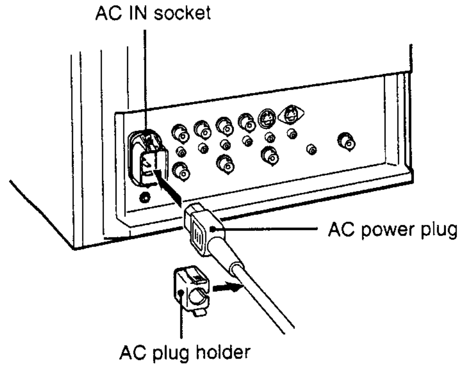
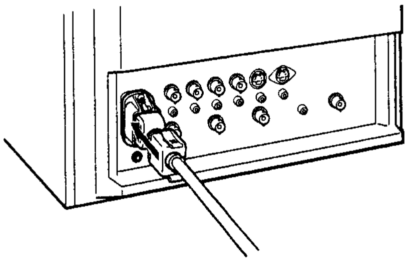
Power Sources

House Current

Connect the supplied AC power cord to the AC IN socket on the rear panel and to a wall outlet.


to AC IN
to a wall outlet

To connect an AC power cord securely with the AC plug holder

1	2
 AC IN socket AC power plug AC plug holder Plug the power cord into the AC IN socket. Then, attach the AC plug holder (supplied) on top of the AC power cord.	 Slide the AC plug holder over the cord until it connects with the attached holder.

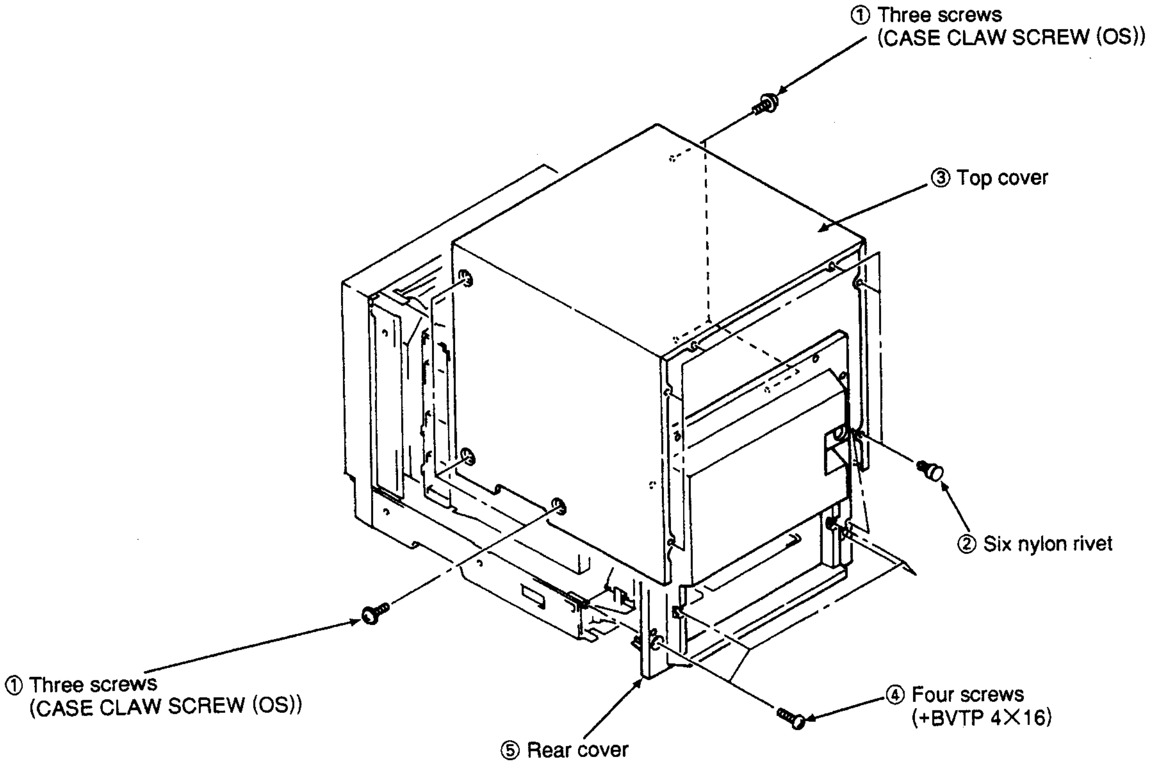
To remove the AC power cord

Pull out AC plug holder by squeezing the up and down sides.

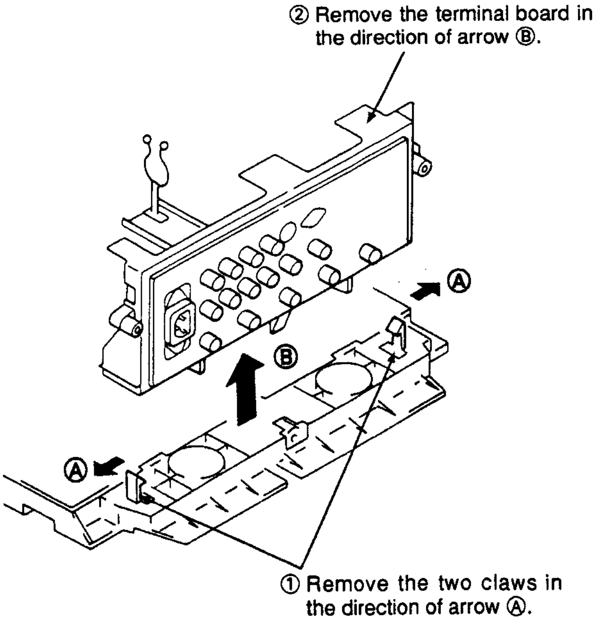
MEMO

SECTION 2
DISASSEMBLY

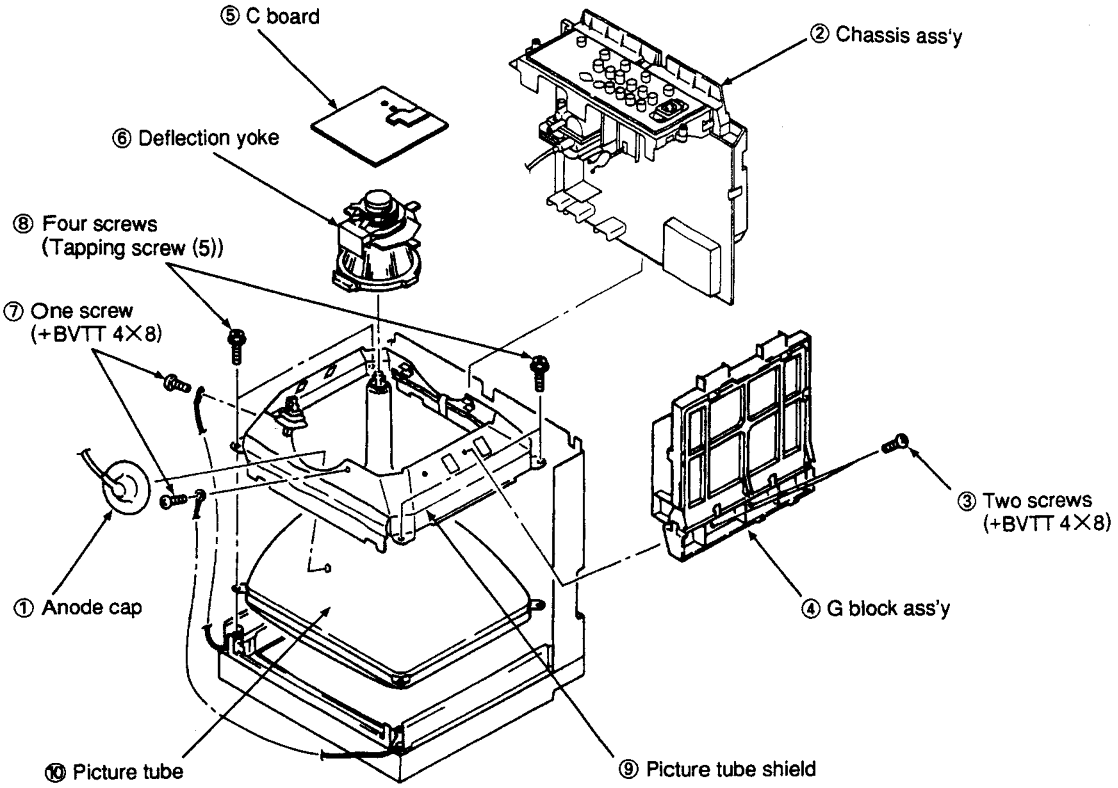
2-1. TOP COVER AND REAR COVER REMOVAL


① Three screws
(CASE CLAW SCREW (OS))
③ Top cover
② Six nylon rivet
① Three screws
(CASE CLAW SCREW (OS))
④ Four screws
(+BVTP 4×16)
⑤ Rear cover

2-2. TERMINAL BOARD REMOVAL


② Remove the terminal board in
the direction of arrow Ⓑ.
Ⓐ
Ⓑ
Ⓐ
① Remove the two claws in
the direction of arrow Ⓐ.

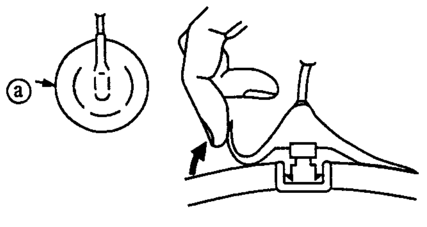
2-3. PICTURE TUBE REMOVAL


⑤ C board
② Chassis ass'y
⑥ Deflection yoke
⑧ Four screws
(Tapping screw (5))
⑦ One screw
(+BVTT 4X8)
③ Two screws
(+BVTT 4X8)
① Anode cap
④ G block ass'y
⑩ Picture tube
⑨ Picture tube shield

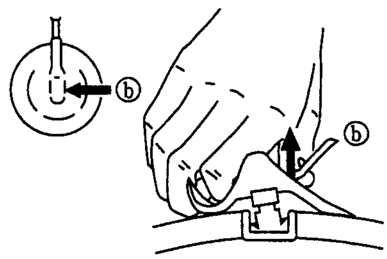
• REMOVAL OF ANODE-CAP

NOTE : Short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT shield or carbon paint on the CRT, after removing the anode.

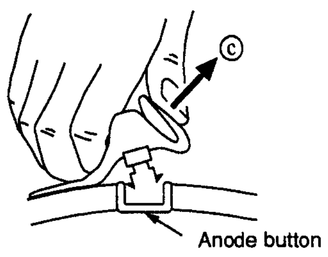
• REMOVING PROCEDURES



① Turn up one side of the rubber cap in the direction indicated by arrow ⓐ.



② Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow ⓑ.


ⓒ
Anode button

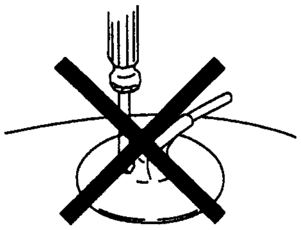
③ When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling up it in the direction of the arrow ⓒ.

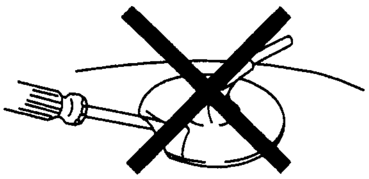
• HOW TO HANDLE AN ANODE-CAP

① Don't hurt the surface of anode-caps with sharp shaped material!

② Don't press the rubber hardly not to hurt inside of anode-caps!
A material fitting called as shatter-hook terminal is built in the rubber.

③ Don't turn the foot of rubber over hardly!
The shatter-hook terminal will stick out or hurt the rubber.





SECTION 3
SET-UP ADJUSTMENTS

3-1. PREPARATIONS (1)

Service Mode

This set is provided with a switch for service on the front panel that can be used to make various adjustments. The operation method of this switch is explained in detail below.

1. ENTERING THE SERVICE MODE

Simultaneously press the [ENTER] key and the [DEGAUSS] key shown on the display of the menu.

2. SERVICE MODE DISPLAY

(1)	(5)	(4)	(3)	(6)
(2)				

Range of Sevice Mode Display

(1) The service items are largely classified into 16 types displayed by titles.

(2) The names of the service items or READ / WRITE guidance, etc., are displayed. The names are dispalyed to the left and the guidance to the right.

(3) This is the serial number for each of the service items. 1-120.

(4) This is the adjustment data for the servise items that are now stored in the RAM. Adjustments can be made by changing these values, but as long as nothing is written to the ROM the adjustment values will be erased by turning off the power or by reading, so please be careful.

(5) When the adjustment data than is now displayed is identical with the data in the ROM, the cursor (▷) is displayed.

(6) The present status is displayed.

[*] : Writing to the ROM. Make sure not to turn off the power while this display is on.

[?] : ROM reading error. In this case, an image is output with the standard adjustment data that the microcomputer itself possesses.

[¿] : Problem in the I^2C bus.

3. FINISHING THE SERVICE MODE

Simultaneously press the [ENTER] key and the [DEGAUSS] key shown on the display of the menu.

4. EASY ON / OFF OF THE SERVICE MODE

If once entering the service mode after having turned on the power, easy ON / OFF is possible by once more pressing the A, B or C switch on the front panel (the LED lights) as long as the power is not turned off or as long as the service mode is not finished.

5. CHANGE OF POSITION OF THE SERVICE MODE DISPLAY

If the switch is continuously pressed when turning on in the above easy mode, the display position moves in the V direction. This method is used when the display is outside of the effective screen area.

6. CHANGE OF SERVICE ITEMS

The items are returned with the [MENU] key and forwarded with the [ENTER] key. When a key is continuously pressed, the operation will be repeated.

7. CHANGE OF SERVICE DATA

The service data is made larger with the [↑] key and smaller with the [↓] key. When continuously pressing the keys, the operation will be repeated.

8. READING OF SERVICE DATA

When reading data from the ROM to the RAM, press the [B/O] key once and check than the READ display is shown in the guidance, and then press the [B / O] key once again. The adjustment data that is written will return to its previous state, so please be careful.

9. WRITING OF SERVICE DATA

When writing data from the RAM to the ROM, press the [DEGAUSS] key once and check that the WRITE display is shown in the guidance, and then press the [DEGAUSS] key once again. Not only the displayed data will be written, but all data, so please be careful.

10. CARRYING OUT FACTORY RESETTING

In case the adjustment data has been destroyed for some reason, and you keep pressing the [B / O] key at the beginning of the above reading, the READ guidance will change to FACTORY RESET guidance in approximately 3 seconds so that the factory resetting can be carried out. By once again pressing the [B / O] key after this, resetting will be carried out ([*] will be displayed as status) and factory resetting will be executed. However, in case the data available at the time of shipment from the factory has been destroyed, or if the ROM has been replaced, etc., or if factory setting mentioned later on has been carried out, factory resetting is executed.

11. CARRYING OUT FACTORY SETTING

Make sure to make possible the above factory resetting by making a copy of the adjustment data when replacing the ROM. If you keep pressing the [DEGAUSS] key at the beginning of the above writing, the WRITE guidance will change into FACTORY RESET guidance after approximately 3 seconds. By once again pressing the [DEGAUSS] key after this, setting will be carried out ([*]will be dispalyed as status) and the data will be copied. By carrying out this operation, the selection items of the menu and the adjustment values will be reset to the standard conditions, so please be careful. If this operation is carried out once, it cannot be carried out again, but the FACTORY SET FLAG in the service mode can be set to 1.

ROM INITIAL WRITING VALUE OF SERVICE DATA

SERVICE MAP Ver 5 . x (1-120)

NO.	SERVICE ITEM		MAX	14"	20"	NO.	SERVICE ITEM		MAX	14"	20"
1	NOR 50 DEF	H FREQUENCY	255	80	107	61	C / T1 ??00K	BIAS (RED)	1023	443	443
2		VIDEO PHASE	255	141	127	62		BIAS (GREEN)	1023	512	512
3		V SIZE	255	165	155	63		BIAS (BLUE)	1023	394	394
4	NOR 60 DEF	H FREQUENCY	255	122	116	64		GAIN (RED)	1023	662	662
5		VIDEO PHASE	255	90	112	65		GAIN (GREEN)	1023	700	700
6		V SIZE	255	120	123	66		GAIN (BLUE)	1023	536	536
7	NOR DEF	V CENTER	255	157	161	67		B / O (RED)	255	120	120
8		H SIZE	255	128	111	68		B / O (GREEN)	255	125	125
9		PIN PHASE	255	111	102	69	C / T2 ??00K	3200K SW	1	0	0
10		PIN AMP	255	108	110	70		BIAS (RED)	1023	263	263
11		L PIN AMP	255	112	122	71		BIAS (GREEN)	1023	512	512
12		U/L PIN	255	126	155	72		BIAS (BLUE)	1023	459	459
13		SEXY	255	128	128	73		GAIN (RED)	1023	572	572
14		V LINEARITY	255	132	82	74		GAIN (GREEN)	1023	700	700
15		V BOW	* 63	32	32	75		GAIN (BLUE)	1023	656	656
16		L V BOW	* 63	32	32	76		B / O (RED)	255	86	86
17		V ANGLE	255	124	134	77		B / O (GREEN)	255	105	105
18	U/SDEF	V SIZE (50)	255	116	131	78	W / B	SUB CON (4 : 3, NORMAL)	255	210	210
19		V SIZE (60)	255	115	89	79		SUB CON (4 : 3, H / V DELAY)	255	122	122
20		H SIZE	255	118	112	80		SUB CON (16 : 9, NORMAL)	255	165	165
21		PIN PHASE	255	74	96	81		SUB CON (16 : 9, H / V DELAY)	255	93	93
22		PIN AMP	255	81	89	82		SUB BRIGHT	255	71	71
23	16:9 NOR DEF	V SIZE (50)	255	85	100	83		USER B / O (RED)	255	120	120
24		V SIZE (60)	255	113	120	84		USER B / O (GREEN)	255	125	125
25		PIN PHASE	255	64	68	85	OTHER	OSD POSITION	255	129	129
26		PIN AMP	255	132	136	86		V HOLD	255	128	128
27	16:9 U/S DEF	V SIZE (50)	255	41	59	87		H BLANKING	255	68	68
28		V SIZE (60)	255	35	55	88		V BLANKING (50)	255	63	63
29		PIN PHASE	255	124	122	89		16 : 9 BLANKING START(50)	255	37	37
30		PIN AMP	255	47	55	90		16 : 9 BLANKING END(50)	255	163	163
31	COMPONENT	SUB PHASE	255	140	140	91		V BLANKING (60)	255	117	117
32		SUB CHROMA (NORMAL)	255	104	104	92		16 : 9 BLANKING START(60)	255	40	40
33		SUB CHROMA (SMPTE)	255	168	168	93		16 : 9 BLANKING END(60)	255	215	215
34		R-Y LEVEL	255	155	155	94		H DELAY	255	165	165
35	NTSC	BURST GATE PULSE WIDTH	255	22	22	95		V DELAY	255	101	101
36		CRYSTAL	255	51	51	96		HP POSITION	255	130	130
37		PHASE (NORMAL)	255	103	103	97		HP WIDTH (NORMAL)	255	90	90
38		PHASE (ACC OFF)	255	112	112	98		HP WIDTH (H / V DELAY)	255	35	35
39		B-Y PHASE	255	141	141	99	SYSTEM	SDI AUDIO	7	5	5
40		CHROMA (NORMAL)	255	123	123	100		358TRAP FILTER	1	0	0
41		CHROMA (ACC OFF)	255	20	20	101		ACC	1	0	0
42		R-Y LEVEL	255	87	87	102		CAPTION VISION	7	0	0
43	NTSC 443	CRYSTAL	255	65	65	103		COMPONENT LEVEL	3	2	2
44		PHASE (NORMAL)	255	80	80	104		NTSC SETUP LEVEL	1	0	0
45		PHASE (ACC OFF)	255	75	75	105		CHROMA SET UP	1	0	0
46		B-Y PHASE	255	140	140	106		COLOR SYSTEM DISPLAY	3	0	0
47		CHROMA (NORMAL)	255	117	117	107		COLOR TEMPERATURE	3	0	0
48		CHROMA (ACC OFF)	255	87	87	108		USER PRESET	1	0	0
49		R-Y LEVEL	255	100	100	109		LANGUAGE	7	0	0
50	PAL	PHASE (NORMAL)	255	87	87	110		RGB SYNC	1	0	0
51		PHASE (ACC OFF)	255	72	72	111		OPTION BOARD	7	0	0
52		B-Y PHASE	255	105	105	112		AGING MODE	1	0	0
53		CHROMA (NORMAL)	255	141	141	113		PAL-M	1	0	0
54		CHROMA (ACC OFF)	255	90	90	114		MODEL	15	* *	* *
55		R-Y LEVEL	255	120	120	115		COLOR TEMP DISP 1	127	65	65
56	SECAM	CHROMA	255	120	120	116		COLOR TEMP DISP 2	127	93	93
57		R-Y LEVEL	255	229	229	117		REMOTE ADDRESS	127	0	0
58		COLOR BALANCE (R-Y)	255	116	116	118		RESERVED 1	1	0	0
59		COLOR BALANCE (B-Y)	255	98	98	119		RESERVED 2	1	0	0
60	C/T1 ??00K	3200K SW	1	0	0	120		FACTORY SET FLAG	1	0	0

* Among the data 8 bits (MAX255) only the upper 6 bits can be changed.

* * 4 : PVM-1454QM, PVM-2054QM
1 : PVM-1450QM, PVM-1450MD

PREPARATIONS (2)

* When composite video or component signals are supplied, they must be supplied as below.

Signal		Signal Contents	Standard Level P-W
COMPOSITE VIDEO	358NT 443NT	100% WHITE	0.714V
		75% WHITE	0.536V
		BURST (GREEN) (This item only P-P)	268mV (623MV)
	PAL-M PAL SECAM	100% WHITE	0.7V
		75% WHITE	0.525V
		PAL BURST (GREEN) (This item only P-P)	300mV (664mV)
COMPONENT	BETA 0	100% WHITE Y	0.7V
		75% WHITE Y	0.525V
		75% COLOR B-Y, R-Y (This item only P-P)	0.7V
	SMPTE	100% WHITE Y	0.7V
		75% WHITE Y	0.525V
		75% COLOR B-Y, R-Y (This item only P-P)	0.525V

* In this document, terms inside boxes ☐ are names of service mode adjustments.

Example 60H-FREQ

* After making adjustments in service mode, write the adjustment data before cutting off the power. If you cut off the power without writing, the results of your adjustments are all lost.

* Standard inspection conditions
Unless specifically specified otherwise in this document. the following conditions are used for adjustments and inspections.

APERTURE	MIN
BRIGHT	50% (Center click)
CHROMA	50% (Center click)
PHASE	50% (Center click)
CONTRAST	80% (Center click)
VOLUME	50%

3-2. WRITING MODEL DATA

1. In service mode, write in the following model data at No. 114 MODEL.
   PVM-1450MD ····················1
2. In service mode, write in the following data at No. 115 COLOR TEMP DISP 1.
   PVM-1450MD ····················65
3. In service mode, write in the following data at No. 116 COLOR TEMP DISP 2.
   PVM-1450MD ····················93

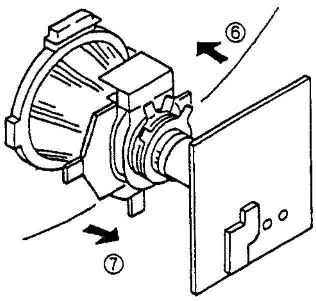
3-3. PICTURE OUTPUT

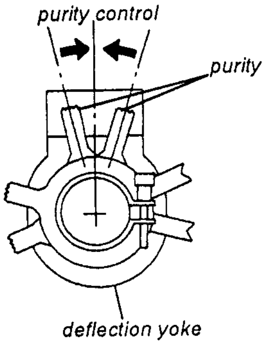
1. Set the AC input voltage.
   (1) Input the video and audio signals to the corresponding terminals on the connector panel.
   (2) Set the sliduck AC voltage as shown on the right.

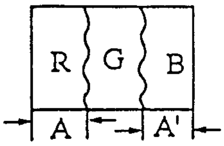
Model	Voltage
PVM-1450MD	AC220 ± 3V (Distortion rate : 3% or less)

3-4. LANDING ADJUSTMENT

1. Preparations
   1) To reduce the influence of geomagnetism, face the set's CRT screen east or west.
   2) Loosen the deflection yoke fixture and lower the deflection yoke to the rear.
   3) Switch on the Power switch and degauss with the degausser.
   4) Adjust the deflection yoke tilt.
2. Adjustment
   1) CONT ······ MIN
   BRT········· Position providing good vision
   2) The rough adjustments of the white balance, G2, and convergence must be completed already.
   3) Set green-only.
   4) Adjust the purity knob so that the green comes to the center of the screen. Make the red and blue about even. Fig. 1
   5) Switch to blue only, red only, and green only and verify each. Fig. 1, 2, and 3
   6) Bring the deflection yoke gradually forward and adjust the deflection yoke so that the R and B at both sides of the screen become green. Fig. 2 → 3
   7) If the deflection yoke comes too far forward, you will see the pattern shown in Figure 4. If that happens, lower the deflection yoke to the rear. Fig. 4 → 3
   8) Switch the single color switch to B and verify the single color. Fig. 6
   9) Switch the single color switch to R and verify the single color. Fig. 9
   10) When one of the colors does not become the single color correctly, check by repeating Items 7 and 8 based on the single color not coming into adjustment.
   If you can not obtain landing in the corners, paste on magnets.
   11) Switch to an all-white signal and check the uniformity.
   12) When the deflection yoke position is determined, fasten it with the fixture.







A'=A

Fig. 1

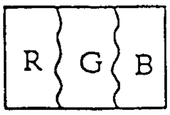


Fig. 2

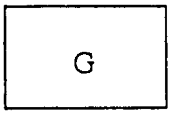


Fig. 3

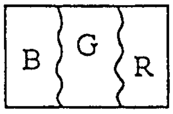


Fig. 4

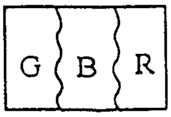


Fig. 5

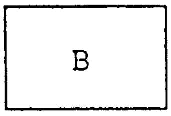


Fig. 6

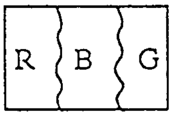


Fig. 7

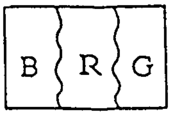


Fig. 8

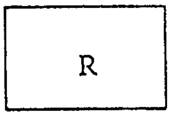


Fig. 9

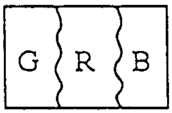
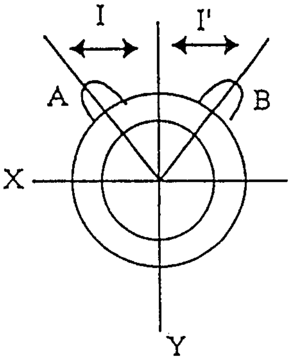


Fig. 10

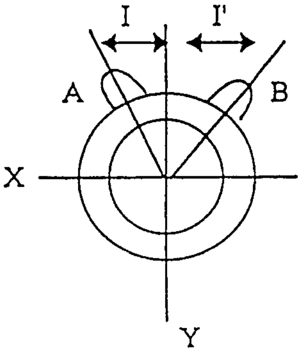
3-5. CONVERGENCE ADJUSTMENT

1. Input a dot pattern signal.
   CONT …… Position providing good vision
   BRT……… MIN
2. Align the horizontal R, G, and B dots at the center of the screen with the H-STAT VR. (*1)
   *1 : If the H-CENTER adjustment was after the H-STAT adjustment, re-adjust the H-STAT.
   (The H-CENT VR changes the H-STAT too.)
3. Align the R, G, and B at the center of the screen with the V-STAT magnets. (*2)
   *2 : After the V-STAT adjustment, paint on the knobs to lock them.



Good example

V-STAT magnet knobs
While keeping the angles for A and B equal (I=I'), align the vertical convergence.

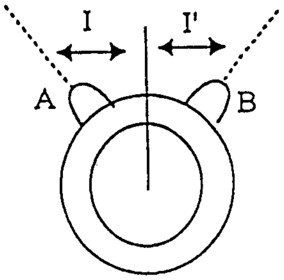


Bad example

If the A and B knobs are not symmetrical (I≠I'), this has bad effects. The focus may deteriorate and beam striking may occur.

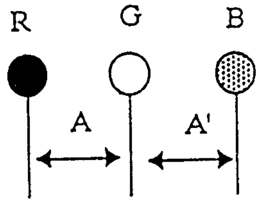
4. For HMC, use the 6-pole magnet to adjust the R and B dots to be symmetrical left and right about the G dot. (*1)

*1 :



6-pole magnet

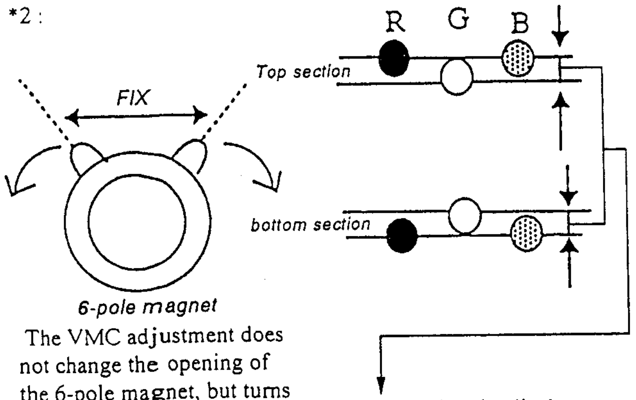
The HMC adjustment changes the opening of the 6-pole magnet.



Adjust the 6-pole magnet so that A=A'. You must maintain the relationship I≠I' while moving the magnet.

5. For VMC, use the 6-pole magnet to adjust the R and B dots to be symmetrical above and below the G dot. (*2)

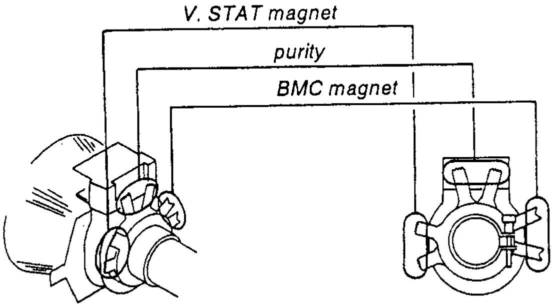
*2 :


R
G
B
Top section
FIX
bottom section
6-pole magnet

The VMC adjustment does not change the opening of the 6-pole magnet, but turns it left and right.

24 Adjust so that the displacement up and down are the same.

6. Adjust by repeating the adjustments in Items 2 through 5. (*3)
   *3 : The above adjustment may affect the landing, so after this adjustment, check the landing again.
7. After the adjustment is complete, paint on the knobs to lock them.

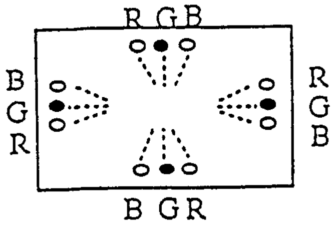

V. STAT magnet
purity
BMC magnet

3-6. DEFLECTION YOKE NECK ROTATION ADJUSTMENT

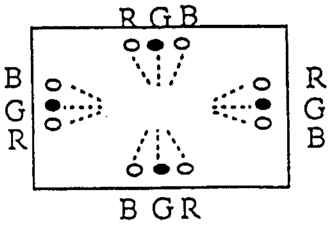
If there is misconvergence at both sides on the X or Y axis of the screen, turn the neck of the deflection yoke in the direction of the arrow to reduce the misconvergence for the entire CRT screen to within the tolerance.

1. Reverse misconvergence pattern

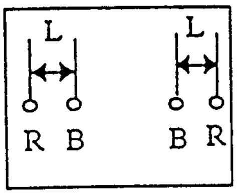
Turn the deflection yoke neck down.


R G B
B
G
R
R
G
B
B G R

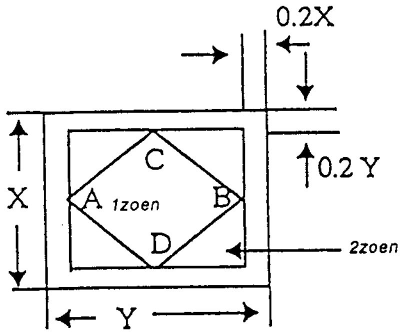
Positive misconvergence pattern
Turn the deflection yoke neck up.

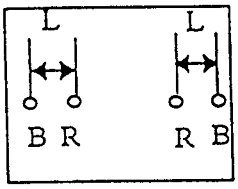

R G B
B
G
R
R
G
B
B G R

Pattern when deflection yoke too far to the left



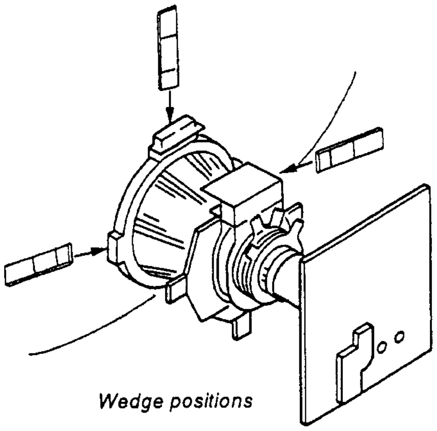
As viewed from the CRT screen, turn the deflection yoke neck to the right.


0.2X
0.2 Y
X
C
A
1zoen
B
D
2zoen
Y

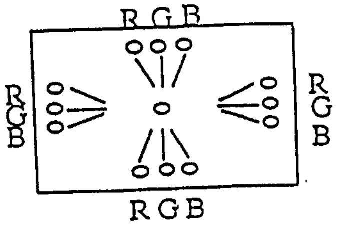


Pattern when deflection yoke too far to the right

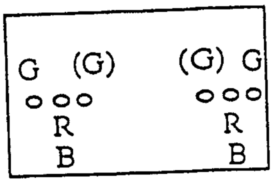
2. Insert the three wedges in the deflection yoke and CRT funnel surface to fasten the deflection yoke.


Wedge positions

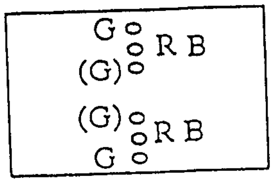
3. The pattern below can not be corrected by turning the neck.



∗ Gun rotation
The beam is twisted at both sides on the X axis and Y axis.



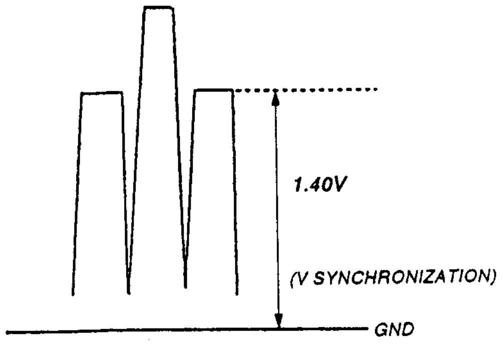
∗ HCR large (small)
At both sides of the screen, the G raster horizontal component is wider (narrower) than those of the R and B rasters.

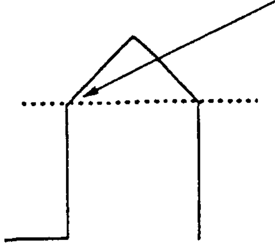


∗ VCR large (small)
At both sides of the screen, the G raster vertical component is wider (narrower) than those of the R and B rasters.

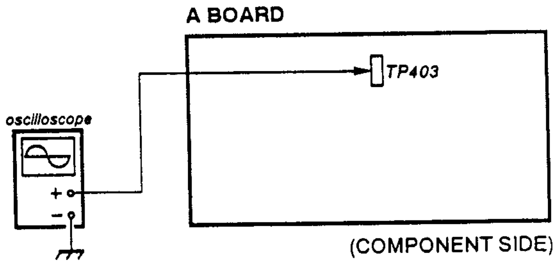
3-7. G2 ADJUSTMENT

1. Input a 525 monoscope signal.
2. Connect the oscilloscope to A board TP403.
3. Of the three reference pulses, measure the lowest one.
4. With the Screen VR, adjust so that left end of the waveform is : 1.40 ± 0.1V





Since the waveform is triangular as shown on the left, adjust the left end to be 1.40V.



3-8. WHITE BALANCE ADJUSTMENT

For measuring equipment, use a color analyzer. (for example from Minolta, etc.)

1. Input a 525 monoscope signal.
   (Input from Line A or Line B, with no burst.)
2. Set :
   CONT …… 0%
   BRT……… 50%
3. On a 20-tone gray scale, adjust service mode SUB BRIGHT so that
   0 and 5 IRE → cut off
   10 IRE → slight glow
4. Input 525 all-white (no burst, composite signal).
5. Set CONT to 80%.
6. Adjust the all-white signal luminance so that the screen luminance is 3 NIT.
7. Put the unit into service mode. (*1)
   *1 : Set 3200 K SW to 0 for both 9300K and 6500K.
8. Adjust to the standard values with C/T1 6500K BIAS.
   (G must be fixed at "400") (*2)
   *2 : Adjust the cut-off to be 3 NIT.
9. Switch the all-white signal luminance to 100 IRE.
10. Adjust to the standard values with C/T1 6500K GAIN.
    (G must be fixed at "700".)
11. Repeat Items 10, 11 and 12 until the adjustment is complete, then write the adjustment data.

3-9. BLUE-ONLY WHITE-BALANCE ADJUSTMENT

1. Switch the user control SW Blue Only On (to set blue-only mode).
2. Input an all-white signal (no burst composite signal).
   The luminance of the all-white signal must be 100 IRE.
   CONT ······ 80%
   BRT········· 50%
3. Check that the white balance is obtained when the all-white signal luminance is adjusted and the screen luminance is 8 NIT.

3-10 SUB BRT ADJUSTMENT

1. Input a 525 monoscope signal.
2. CONT ······ MIN
   BRT········· CENTER (50%)
3. Put the unit into service mode and select SUB BRIGHT
4. Adjust SUB BRIGHT so that 10 IRE gives a slight glow and 10 IRE gives cut off.

3-11. FOCUS ADJUSTMENT

Note : PVM-1450MD are adjusted with RV707 on the C board.

1. Input a 525 monoscope signal.
2. Adjust the focus to optimize the focus on the characters "30" at the center of the screen.
3. Switch to an all-white signal and check the uniformity.

SECTION 4
SAFETY RELATED ADJUSTMENT

The following adjustments should always be performed when replacing the following components (marked with ⧓ , ◪ on the schematic diagram).

+B detection ································⧓ R1535
Tertiary coil detection·····················⧓ R1536
Part replaced (◪)
Hold Down Circuit ···········◪ A board IC500, IC507, D501, D533, C506, C512, C523, C549, C592, R506, R518, R519, R551, R1536, R1537, R1560, T501

Beam Current Protector Circuit····························◪ A board Q500, Q511, C513, R508, R515, R516, R517
B+ Regulator Circuit ·········◪ A board R1535
◪ G board IC602, C603

B+ VOLTAGE CONFIRMATION

Standard : less than 117.0VDC
Check Condition : Input voltage : 110 $\pm^{2}_{0}$ VAC
Note : Use NF Power Supply or make sure that distortion factor is 3% or less.
Input signal : Monoscope signal
Controls : BRT & CONT ⇨ Initial reset

HOLD-DOWN CIRCUIT VOLTAGE CONFIRMATION

(1) Hold down circuit (B+ Actuation)

a) When IABL = 600 ± 50μA, raster goes out at less than 130 $\pm^{0.0}_{1.0}$ V by applying an external DC voltage to IC500 ② pin (TP502).

Input signal : ALL white

b) When IABL = 40 ± 20μA, raster goes out at less than 132 $\pm^{0.0}_{1.0}$ V by applying an external DC voltage to IC500 ② pin (TP502).

Input signal : Dot

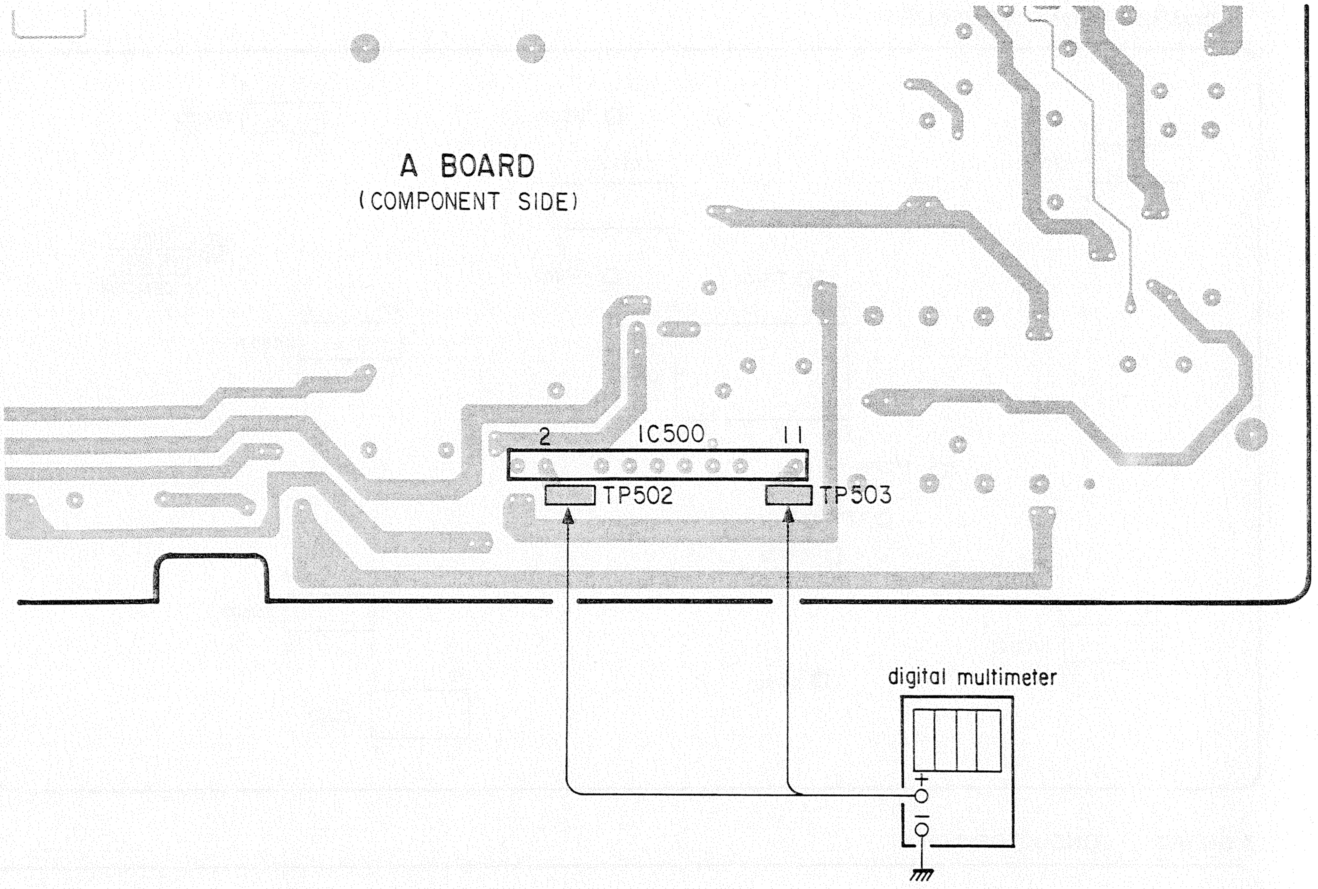
(2) Hold down circuit (Tertiary coil detection voltage)
Confirmatory item : 110.0V voltage should be applied to the ⑪ pin of IC500.

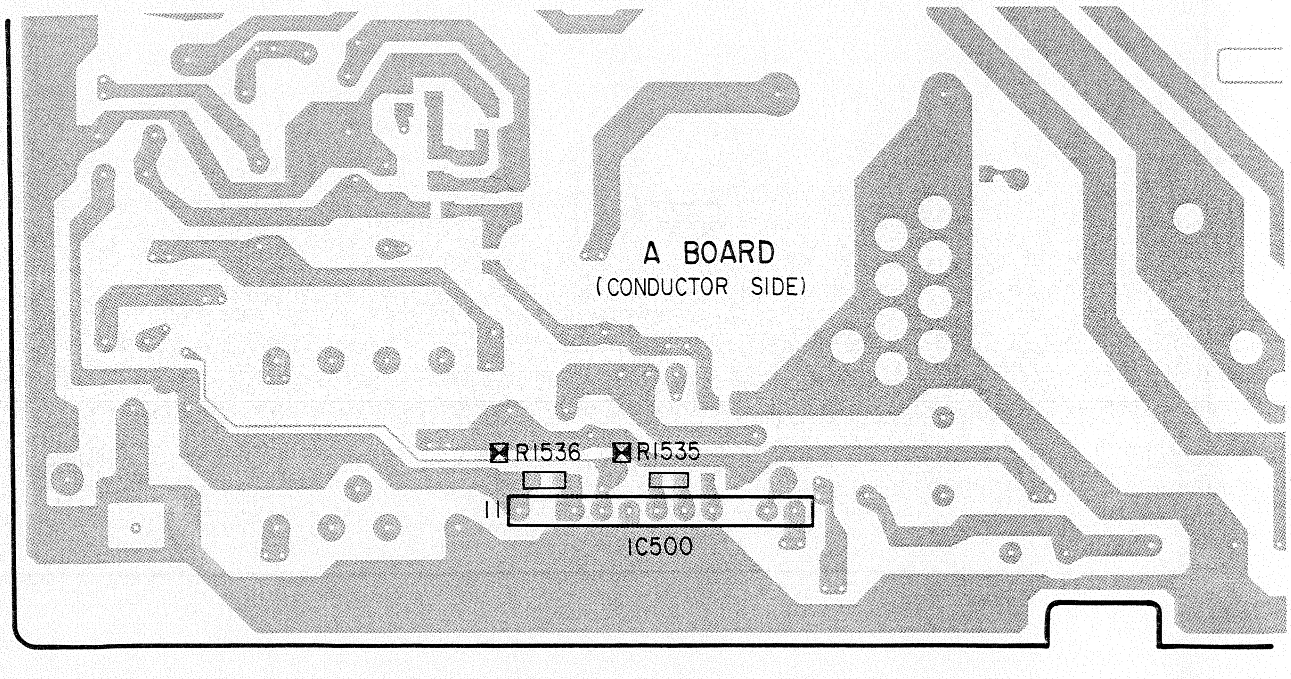
a) When IABL = 600 ± 50μA, raster goes out when applying less than DC 146.7V voltage to the ⑪ pin (TP503) of IC500 from outside.

Input signal : ALL white

b) When IABL = 40 ± 20μA, raster goes out when applying less than DC 147.0V voltage to the ⑪ pin (TP503) of IC500 from outside.

Input signal : Dot

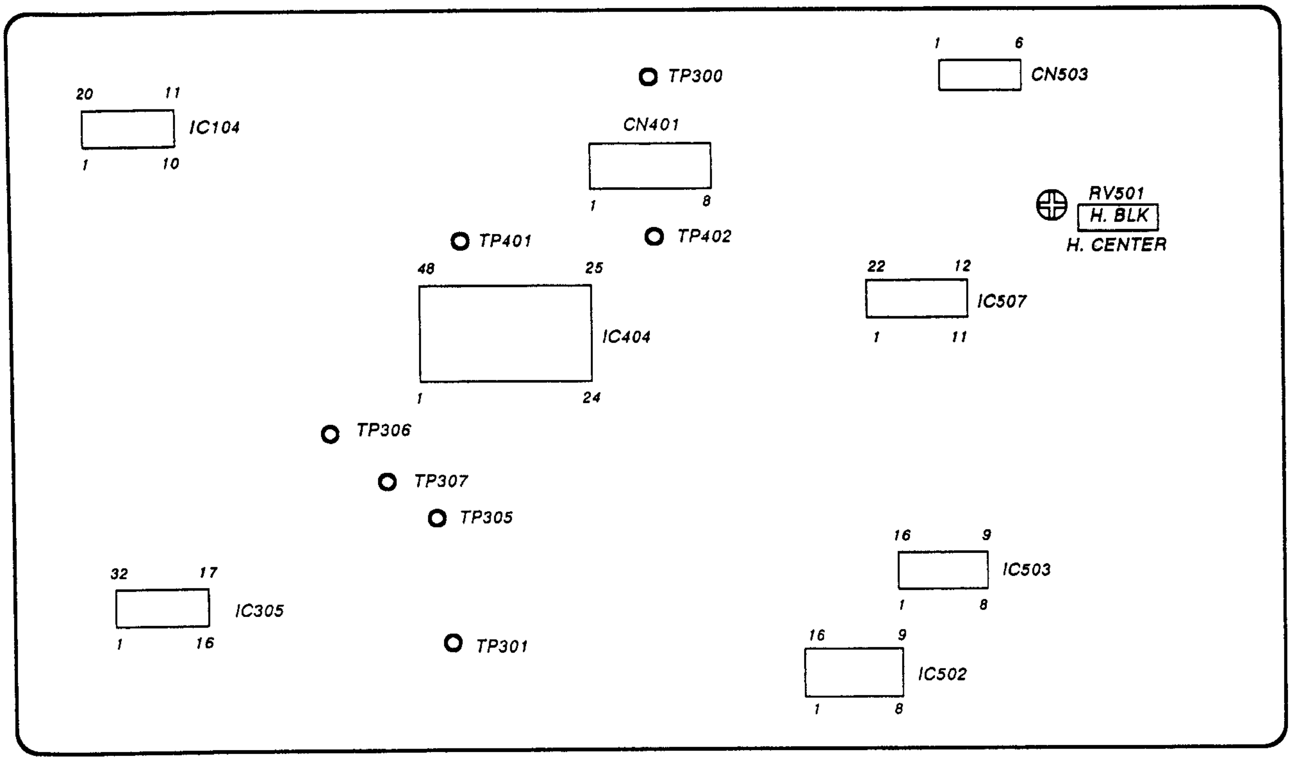

A BOARD
(COMPONENT SIDE)
2
IC500
11
TP502
TP503
digital multimeter
+
−


A BOARD
(CONDUCTOR SIDE)
☒R1536
☒R1535
11
IC500

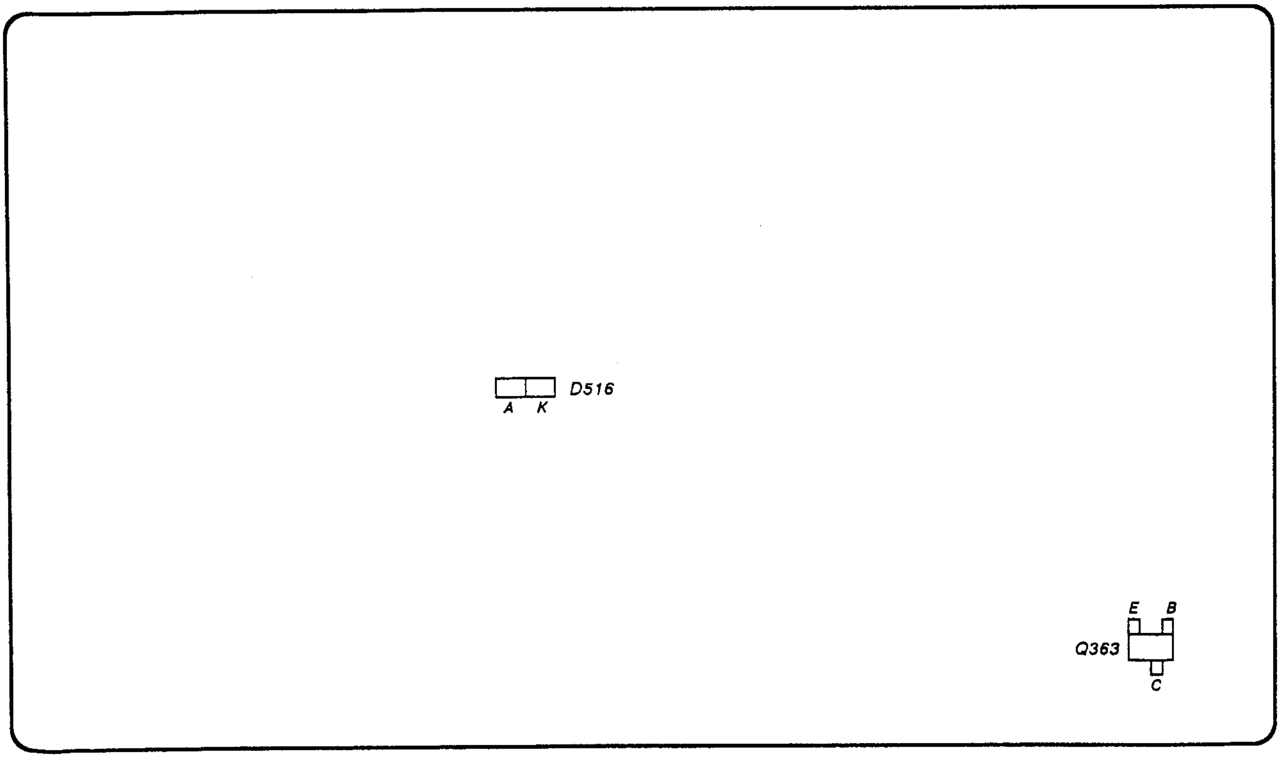
SECTION 5
CIRCUIT ADJUSTMENTS

5-1. A BOARD ADJUSTMENT

A BOARD – COMPONENT SIDE –


20
11
IC104
1
10
TP300
CN401
1
8
1
6
CN503
RV501
H. BLK
H. CENTER
TP401
TP402
48
25
IC404
1
24
22
12
IC507
1
11
TP306
TP307
TP305
16
9
IC503
1
8
32
17
IC305
1
16
TP301
16
9
IC502
1
8

A BOARD – CONDUCTOR SIDE –


D516
A
K
E
B
Q363
C

I. Preparations

∗ When composite video or component signals are supplied from connector CN301, they must be supplied taking into account the effect of the Q board as indicated on the right.
The levels of the signals supplied must be within ± 2% of the standard on the right.

Signal		Signal Contents	Standard Level (Pedestal-White)	Reduction Ratio	Connector Feed Level (Pedestal-White)
COMPOSITE VIDEO (75% COLOR BAR)	358NT 443NT	100% WHITE	0.714V	93%	0.664V
		75% WHITE	0.536V	93%	0.498V
		BURST (GREEN) (This item only P-P)	286mV (632mV)	94% (94%)	269mV (594mV)
	PAL-M PAL SECAM	100% WHITE	0.7V	94%	0.651V
		75% WHITE	0.525V	94%	0.488V
		PAL BURST (GREEN) (This item only P-P)	300mV (664mV)	94% (94%)	282mV (624mV)
COMPONENT (75% COLOR BAR)	BETA0	100% WHITE Y	0.7V	94.8%	0.664V
		75% WHITE Y	0.525V	94.8%	0.498V
		75% COLOR B-Y, R-Y (This item only P-P)	0.7V	94.8%	0.664V
	SMPTE	100% WHITE Y	0.7V	94.8%	0.664V
		75% WHITE Y	0.525V	94.8%	0.498V
		75% COLOR B-Y, R-Y (This item only P-P)	0.525V	94.8%	0.498V

∗ The function or input can be selected by writing the corresponding data from the table below into microcomputer (IC101) RAM address 0006h.

BIT	FUNCTION	DATA
0-3	LINE A/RGB	1
	LINE B/COMPONENT	2
	LINE C/SDI	3
	LINE/RGB	4
	EXT SYNC	5
	DEGAUSS	6
	BLUE ONLY	7
	UNDER SCAN	8
	H/V DELAY	9
	16 : 9	10
4-7	MENU	1
	SELECT	2
	UP	3
	DOWN	4

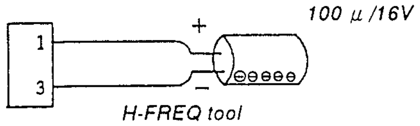
∗ In this document, terms inside boxes ☐ are names of service mode adjustments.
Example $\boxed{\text{60H-FREQ}}$

∗ CONT 80% is the center click position for the user control.

II. Deflection System Adjustment

1. ADJUSTING THE HORIZONTAL OSCILLATION FREQUENCY

1. Input a 525 monoscope signal.
2. Set :
   CONT······ 80%
   BRT·········50%
3. Put the unit into service mode.
4. Drop A board IC507 Pin 1 to ground with a 100μ/16V electrolytic capacitor. (Ground must use CN505 Pin 3.)
   Or plug the H-FREQ tool into CN505.
5. Adjust 60H-FREQ so that the diagonal lines on the screen become vertical lines. (Fig. 1)
6. Input a 625 monoscope signal.
7. Adjust 50H-FREQ so that the diagonal lines on the screen become vertical lines. (Fig. 1)



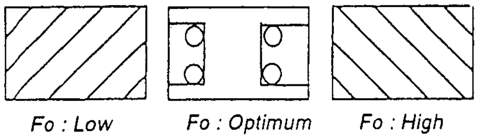


Fig. 1

2. H-BLK Adjustment

1. Input a 525 monoscope signal.
2. Set :
   CONT······80%
   BRT·········50%
3. Put the unit into service mode.
4. Observe the anode of D516 or TP300 with the oscilloscope and adjust H-BLK to obtain the waveform in Fig. 2.

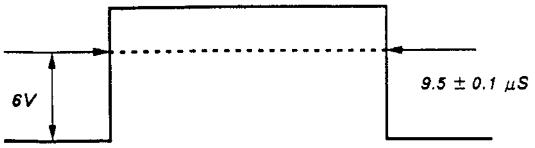


Fig. 2

5. Put the unit into service mode.
6. Input an adjustment value of 70 for H-BLK.

3. PICTURE PHASE Adjustment

1. Input a 525 monoscope signal.
2. Put the unit into service mode.
3. Input an adjustment value of 123 for 60 VIDEO PHASE.
4. Input an adjustment value of 137 for 50 VIDEO PHASE.
5. Roughly adjust H-SIZE so that the horizontal size is 15.75 frames.
6. Turn RV501 (H-CENT) and adjust so that the left and right over scan amounts are equal.

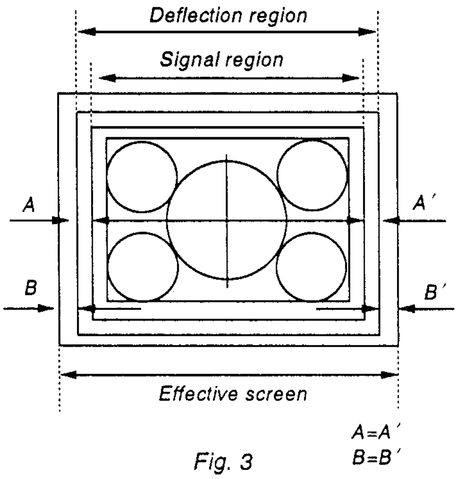


Fig. 3

4. V-BLK adjustment

1. Put the unit into service mode.
2. Shrink the screen size with using NOR 50V SIZE and NOR 60V SIZE to view the upper and lower blanking.
3. Input 525 monoscope and adjust upper white frame to become half with using V BLK (60).
4. Input 625 monoscope and adjust whole upper white frame to become just lost to view with V BLK (50).

5. VERTICAL DEFLECTION SECTION Adjustment

Normal V. Size Standards

	525	625
4 : 3	11.75 ± 0.2 frames	11.2 ± 0.2 frames

1. Input a 525 monoscope signal.
2. Set :
   CONT······ 80%
   BRT·········50%
3. Put the unit into service mode.
4. Adjust the size to 12 frames with NOR 60 V SIZE.
   Adjust the vertical linearity with V LIN.
   Adjust the vertical centering with 60 V CENT.
   Note : The V.CENT adjustment must be re-evaluated after the V.LIN adjustment.
   Adjust the size to the standard value with NOR 60 V SIZE.
5. Put the unit into normal scan mode.
6. Input a 625 monoscope signal.
7. Roughly adjust NOR 50V SIZE so that the size is 11 frames.
   Adjust the vertical centering with 50 V CENT.
   Note : The V.CENT adjustment must be re-evaluated after the V.LIN adjustment.
   Adjust the size to the standard value with NOR 50 V SIZE.

6. HORIZONTAL DEFLECTION SECTION ADJUSTMENT NORMAL SCAN Adjustment

1. Input a 525 monoscope signal.
2. Set :
   CONT······ 80%
   BRT·········50%
3. Put the unit into service mode.
4. Roughly adjust NOR H SIZE so that the size is 15.75 frames.
5. Adjust the horizontal deflection section with NOR PIN AMP, NOR PIN PHASE, NOR U/L PIN, SEXY, V BOW and V ANGLE.
   (While adjusting the pincushion distortion and bow distortion with V-ANGL and BOW, adjust so that the horizontal and vertical of the screen are straight lines.)

Normal H.Size Standards

	525	625
4 : 3	15.75 ± 0.2 frames	15.0 ± 0.2 frames

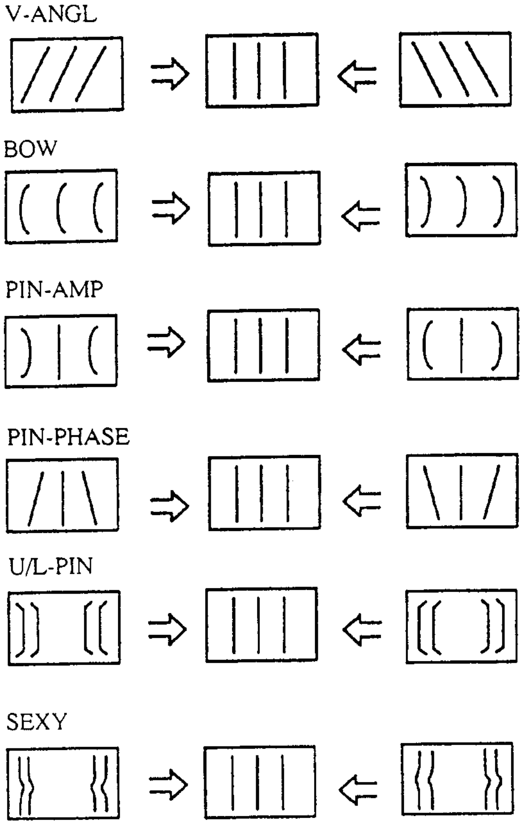


Fig. 4

7. OSD POSITION Adjustment

1. Input a 525 color bar signal.
2. Connect the oscilloscope probes to TP300 (H-BLK) and IC104 Pin 14.
3. Adjust OSD POSITION so that the gap between the rising edge of the H-BLK waveform and the right edge character (the right edge of the "▭" for service mode OSD POSITION) is : 57 μS ± 0.2 μS

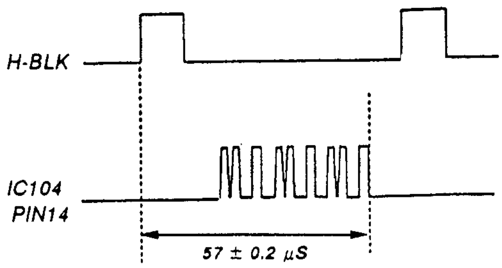


Fig. 5

8. WRITING THE ADJUSTMENT

1. Write the adjustment results into memory.
   Note : If you cut off the power before writing, the results of your adjustments are all lost.

III. SIGNAL SYSTEM ADJUSTMENT

1. NORMAL SUB CON ADJUSTMENT

1. Input a vertical white line signal.
   Note : Use a vertical white line signal
   (525 no burst, H width 3μS, 100IRE).
2. Set :
   CONT ······ 80%
   BRT ········· 50%
3. Connect the oscilloscope probe to A board CN401 Pin 3.
4. Put the unit into service mode.
5. Provisionally input an adjustment value of 69 for SUB BRT.
6. Adjust the pedestal or the distance between the sync tip and white with SUB CON (4 : 3 NOR).

SUB CON (4 : 3 NOR). (Fig. 6)

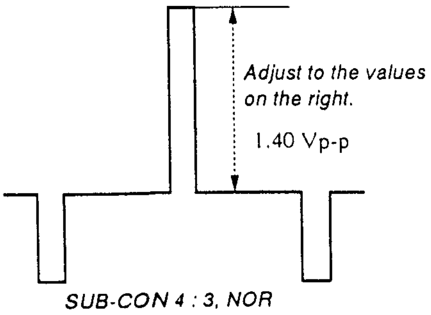


Fig. 6

2. SUB PHASE Adjustment

1. Input a NTSC color bar signal.
2. Connect between L309 and ground and between TP507 and a 5V line (L320 line).
3. Put the unit into service mode.
4. Adjust SUB PHASE to minimize the output waveform (15 mVp-p max.) (Fig. 7)

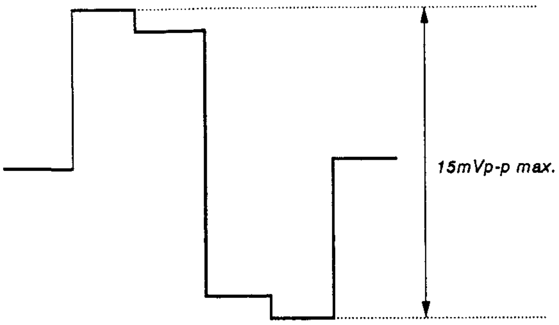
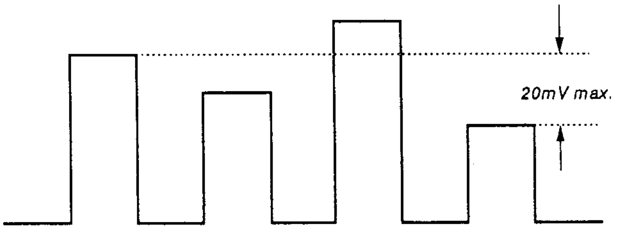


Fig. 7

3. SUB CHROMA Adjustment

1. Put the unit into service mode.
2. Input an adjustment value of 98 for SUB CHROMA NORMAL. (Fig. 8)



Adjust so that the levels of the first peak and the fourth peak are the same.

Fig. 8

4. BURST GATE PULSE WIDTH Adjustment

1. Input an NTSC color bar.
2. Connect the oscilloscope probes to TP301 (COMP-SYNC) and Q363 or IC305 Pin 1. (Be careful! IC305 Pin 1 is a high-impedance line.)
3. Put the unit into service mode.
4. Adjust BGP WIDTH so that the output waveform has the relationship shown in Fig. 9 .

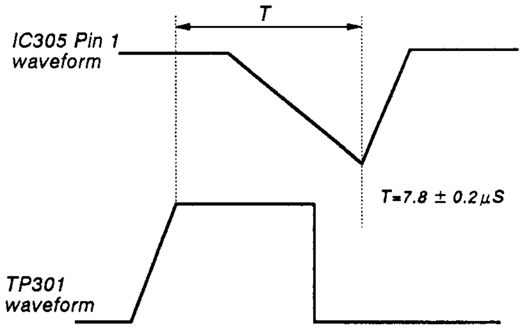
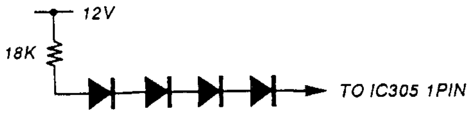


Fig. 9

5. VXO Adjustment

1. X'tal 358
   1) Input an NTSC color bar.
   2) Connect the frequency counter to IC305 Pin 21.
   3) Put the unit into service mode.
   4) Connect the circuit on the right to IC305 Pin 1.
   5) Adjust CRYSTAL 358 so that the counter reading meets the standard below. (You can also just adjust for where the color flicker stops.)

X'tal 358
Standard level 3579545 ± 20Hz



Example : 1SS133

(For connecting to Pin 1, have the four diodes as close to Pin 1 as possible to reduce the length of the wires.)

2. X'tal 443
   1) Input a 443 NTSC color bar.
   2) Connect the frequency counter to IC305 Pin 21.
   3) Put the unit into service mode.
   4) Connect to IC305 Pin 1 in the same manner as in 1-4).
   5) Adjust Crystal 443 in the same manner as in 1-5).

X'tal 443
Standard level 4433619 ± 20Hz

6. NTSC COLOR DEMODULATION Adjustment

1. NT 358 PHASE (NORMAL)
   1) Input an NTSC color bar.
   2) Connect the oscilloscope probe to TP306.
   3) Supply 4 VDC to IC305 Pin 4.
   4) Put the unit into service mode.
   5) Adjust PHASE NTSC 358 NOR so that the output waveform burst section is a straight line. (Fig. 10)

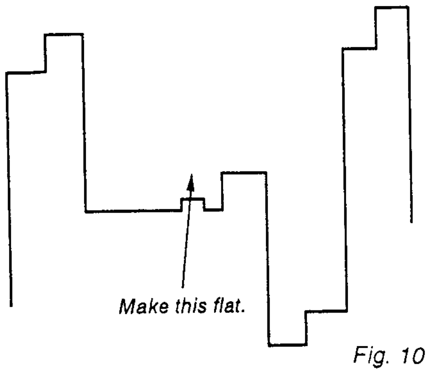


Fig. 10

2. NT358 B-Y PHASE

The phase adjustment must be carried out before the chroma adjustment.
   1) Input an NTSC color bar.
      (Input only the R-Y component. Have B-Y and Y off.)
   2) Connect the oscilloscope probe to TP305.
   3) Put the unit into service mode.
   4) Adjust B-Y PHASE NTSC 358 so that the color components form a straight line.

3. NT358 CHROMA (NORMAL)
   1) Input an NTSC color bar.
   2) Connect the oscilloscope probe to IC404 Pin 30 or TP402.
   3) Put the unit into service mode.
   4) Using CHROMA NTSC 358 NOR, adjust so that the tops of the waveform line up as in the diagram below. (Fig. 11)

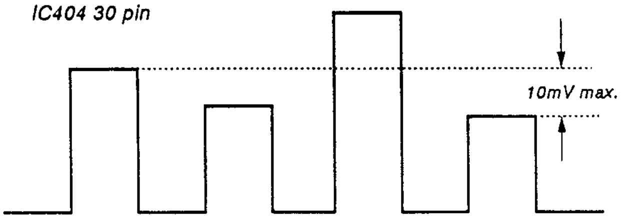


Fig. 11

Adjust so that the levels of the first peak and the fourth peak are the same.

4. NTSC 358 R-Y LEVEL
   1) Input an NTSC358 color bar.
   2) Connect the oscilloscope probe to IC404 Pin 41 or TP401.
   3) Put the unit into service mode.
   4) Using R-Y LEVEL NTSC 358, adjust so that the tops of the waveform line up as in the diagram below. (Fig. 12)

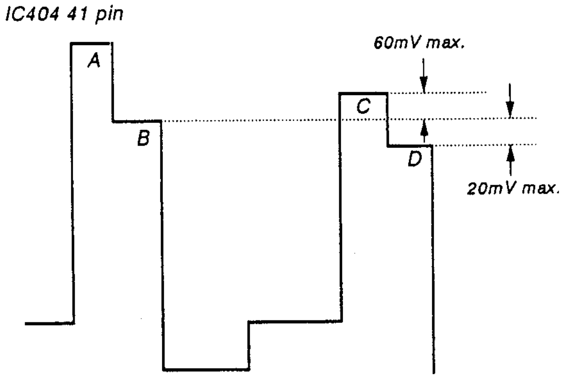


Fig. 12

Adjust so that B=D above (20 mV max.) Check that the difference between B and C is no greater than 60 mV.

5. NTSC 443 PHASE (NORMAL)

1) Input an NTSC 443 color bar.
2) Connect the oscilloscope probe to TP306.
3) Supply 4 VDC to IC305 Pin 4.
4) Put the unit into service mode.
5) Adjust PHASE NTSC 443 NOR so that the output waveform burst section is a straight line. (Fig. 13)

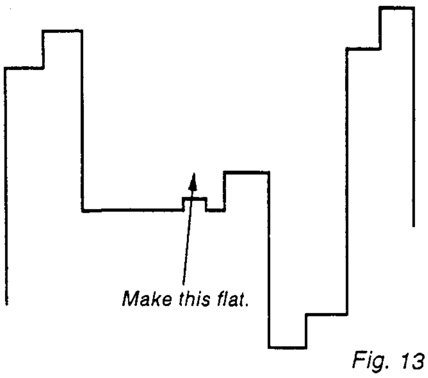
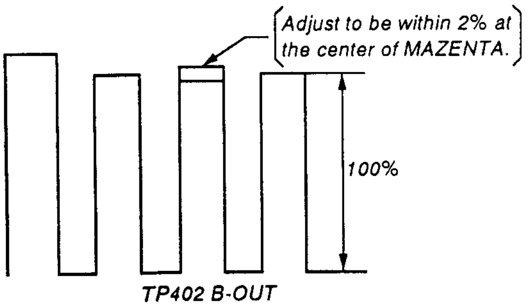


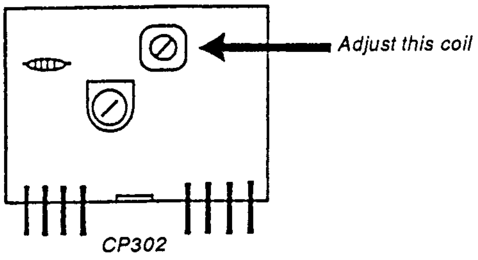
Fig. 13

6. PAL LINE CRAWLING

Note : Perform before PAL PHASE ADJUSTMENT.

1) Input a PAL color bar.
2) Connect the oscilloscope probe to TP402 (B-OUT)
3) Adjust the coil of CP302 so that the shaking of MAZENTA wave form become minimum.
   Do not touch the RV at this time.





7. Writing the adjustment result

1. Write the adjustment results into memory.

5-2. G BOARD ADJUSTMENT

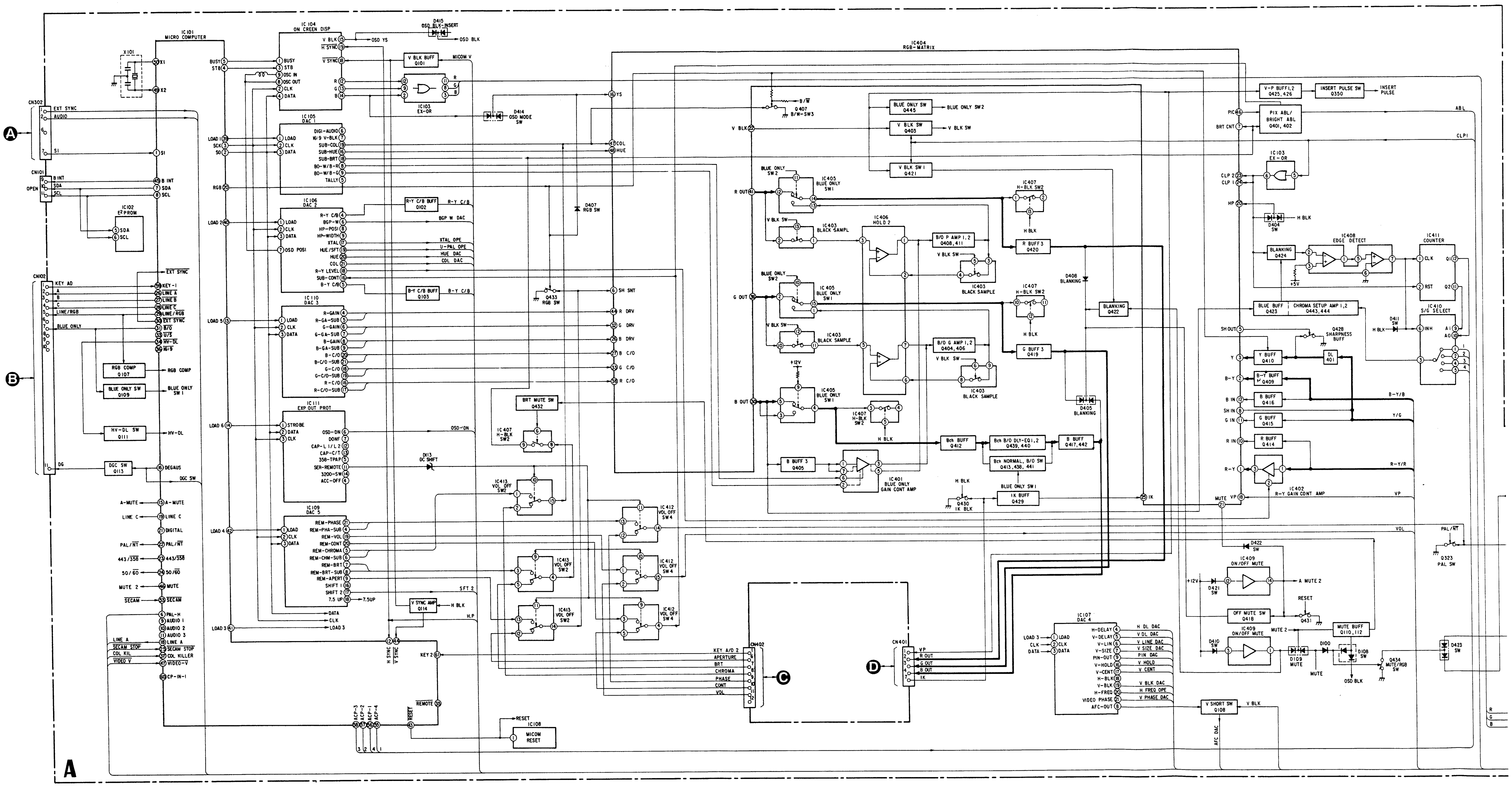
1. Checking the output lines

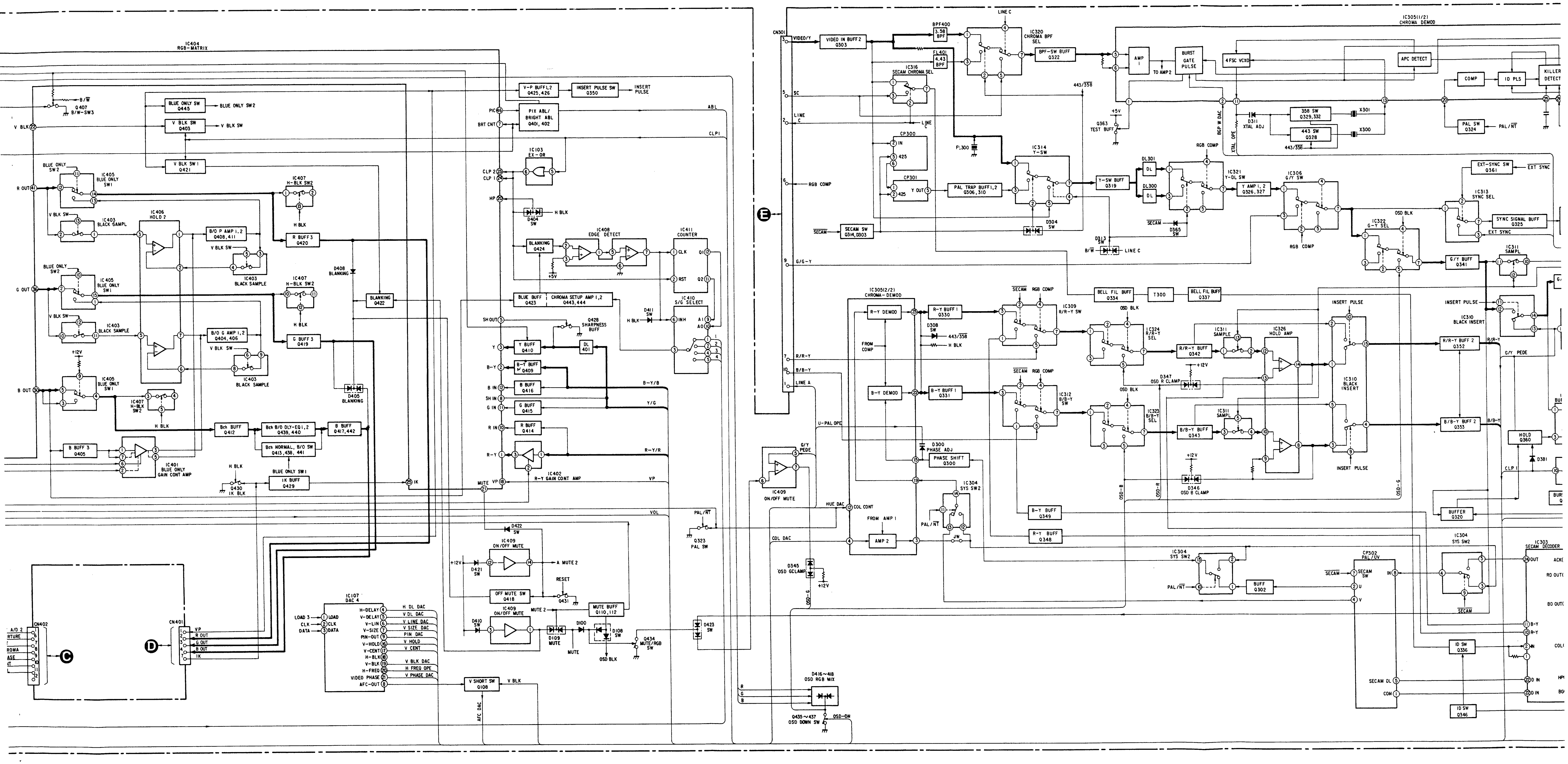
Check that the output lines meet the standards below.

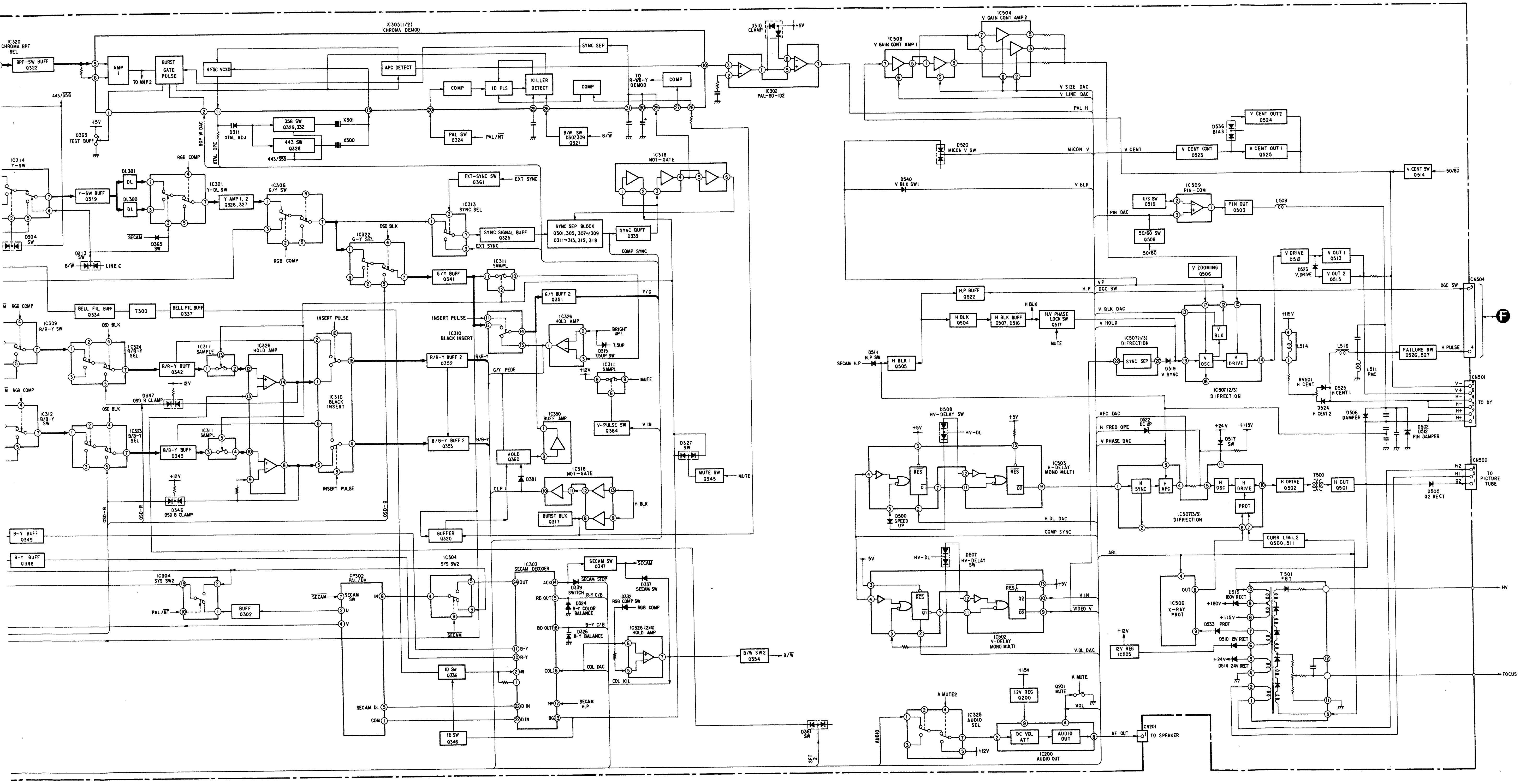
15V	16.0 ± 1.0V
5V(A)	5.0 ± 0.3V
+B	115 ± 0.1V
5V	5.0 ± 0.5V

SECTION 6
DIAGRAMS

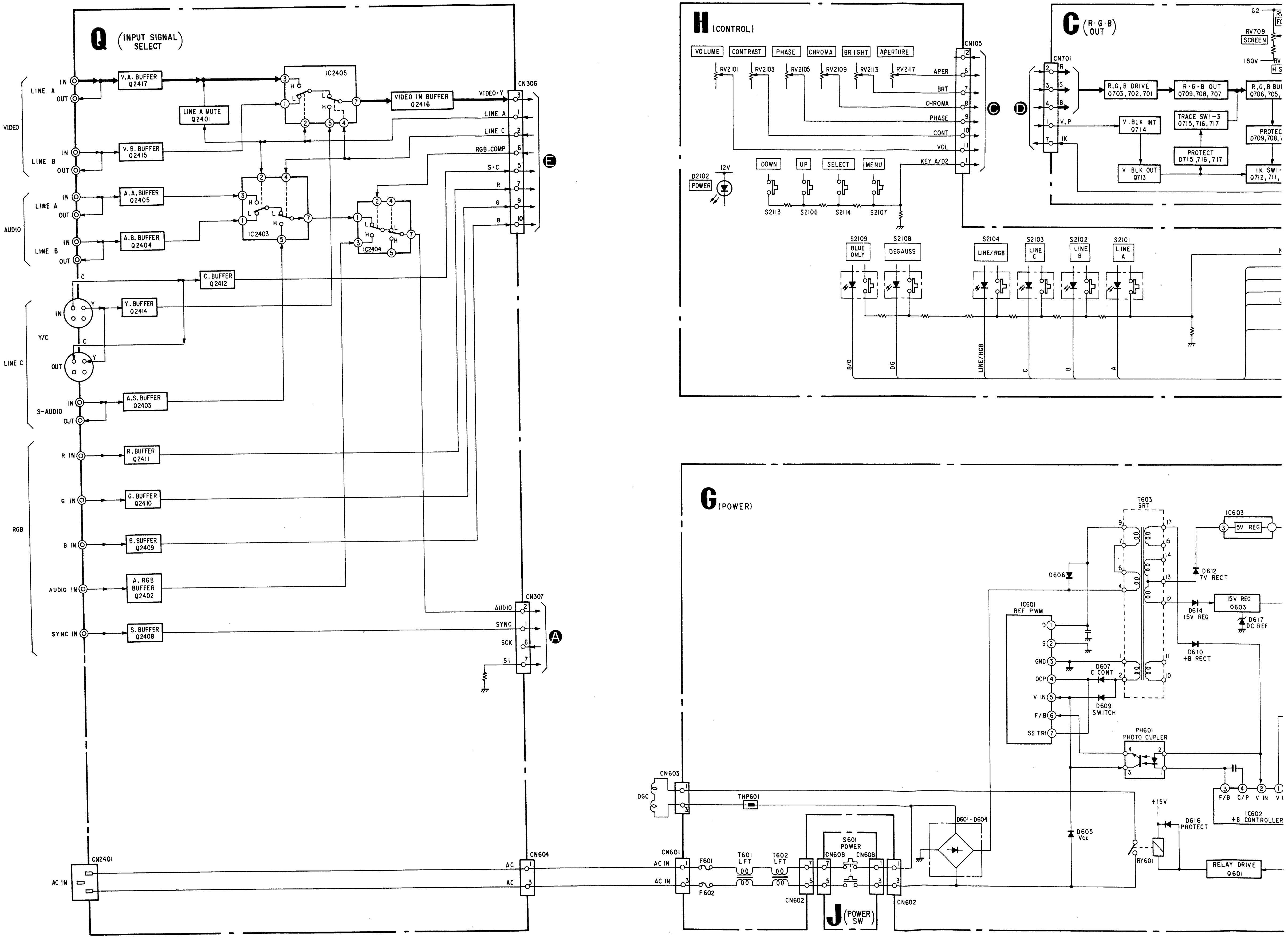
6-1. BLOCK DIAGRAMS (1)

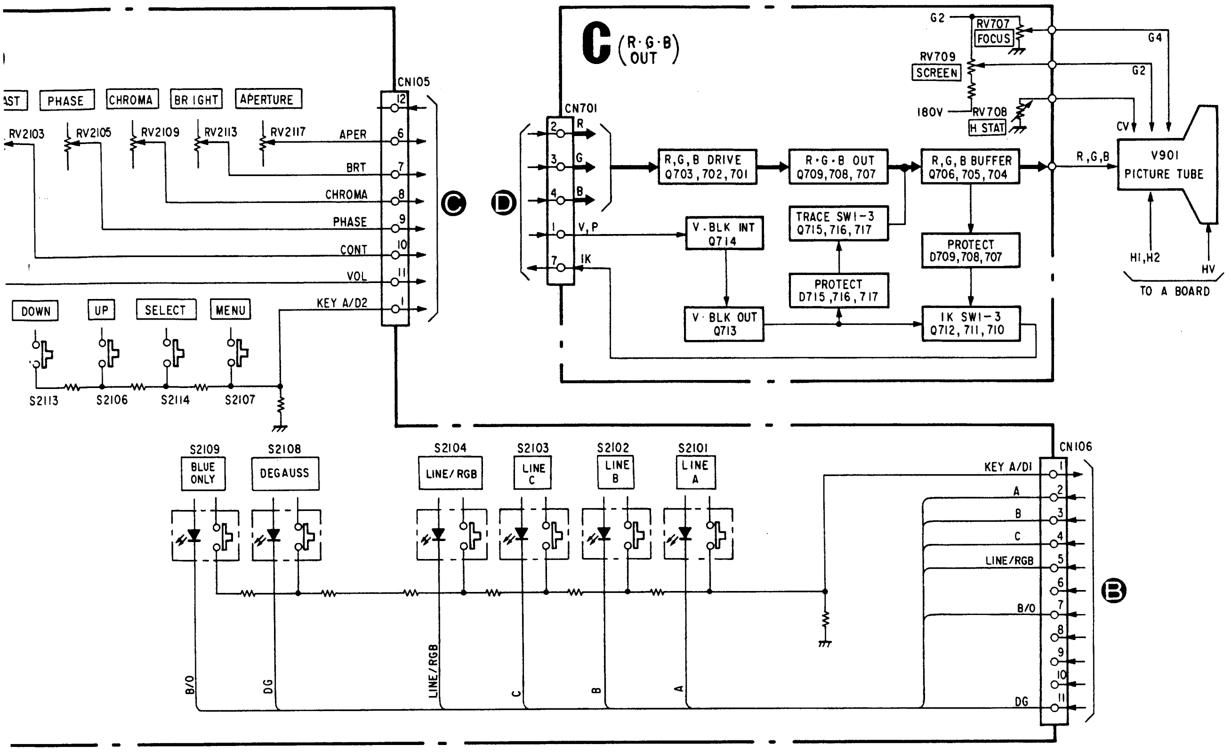

A
B
C
D
CN302
CN101
CN102
X101
IC101 MICRO COMPUTER
IC102 E²PROM
IC104 ON CREEN DISP
IC105 DAC 1
IC106 DAC 2
IC110 DAC 3
IC111 EXP OUT PROT
IC109 DAC 5
IC108 MICOM RESET
IC103 EX-OR
V BLK BUFF Q101
R-Y C/B BUFF Q102
B-Y C/B BUFF Q103
V SYNC AMP Q114
D415 OSD BLK-INSERT
D414 OSD MODE SW
D407 RGB SW
D413 DC SHIFT
Q433 RGB SW
BRT MUTE SW Q432
IC407 H-BLK SW2
IC413 VOL OFF SW2
IC412 VOL OFF SW4
RGB COMP Q107
BLUE ONLY SW Q109
HV-DL SW Q111
DGC SW Q113
IC404 RGB-MATRIX
Q407 B/W-SW3
BLUE ONLY SW Q445
V BLK SW Q403
V BLK SW1 Q421
IC405 BLUE ONLY SW1
IC403 BLACK SAMPL
IC406 HOLD 2
B/O P AMP 1,2 Q408, 411
B/O G AMP 1,2 Q404, 406
R BUFF 3 Q420
G BUFF 3 Q419
B BUFF Q417, 442
D408 BLANKING
D405 BLANKING
BLANKING Q422
B BUFF 3 Q405
IC401 BLUE ONLY GAIN CONT AMP
Bch BUFF Q412
Bch B/O DLY-EQ1,2 Q439, 440
Bch NORMAL, B/O SW Q413, 438, 441
IK BUFF Q429
Q430 IK BLK
CN402
CN401
V-P BUFF1,2 Q425, 426
INSERT PULSE SW Q350
PIX ABL/ BRIGHT ABL Q401, 402
IC103 EX-OR
D404 SW
IC408 EDGE DETECT
BLANKING Q424
IC411 COUNTER
BLUE BUFF Q423
CHROMA SETUP AMP 1,2 Q443, 444
IC410 S/G SELECT
D411 SW
Q428 SHARPNESS BUFF
Y BUFF Q410
DL 401
B-Y BUFF Q409
B BUFF Q416
G BUFF Q415
R BUFF Q414
IC402 R-Y GAIN CONT AMP
D422 SW
IC409 ON/OFF MUTE
D421 SW
OFF MUTE SW Q418
RESET Q431
MUTE BUFF Q110, 112
D410 SW
D109 MUTE
D100 MUTE
D108 SW
Q434 MUTE/RGB SW
D423 SW
IC107 DAC 4
V SHORT SW Q108
Q323 PAL SW
INSERT PULSE
ABL
CLP1
OSD BLK
AFC DAC


IC404 RGB-MATRIX
BLUE ONLY SW Q445
BLUE ONLY SW2
V BLK SW Q403
V BLK SW I Q421
Q407 B/W-SW3
V BLK
R OUT
G OUT
B OUT
IC405 BLUE ONLY SW1
IC403 BLACK SAMPL
IC406 HOLD 2
B/O P AMP 1,2 Q408,411
IC407 H-BLK SW2
R BUFF 3 Q420
G BUFF 3 Q419
B/O G AMP 1,2 Q404,406
IC403 BLACK SAMPLE
D408 BLANKING
BLANKING Q422
D405 BLANKING
B BUFF 3 Q405
IC401 BLUE ONLY GAIN CONT AMP
Bch BUFF Q412
Bch B/O DLY-EQ1,2 Q439,440
Bch NORMAL, B/O SW Q413,438,441
B BUFF Q417,442
BLUE ONLY SW1
IK BUFF Q429
Q430 IK BLK
H BLK
V-P BUFF1,2 Q425,426
INSERT PULSE SW Q350
INSERT PULSE
PIX ABL/ BRIGHT ABL Q401,402
ABL
CLP1
IC103 EX-OR
D404 SW
BLANKING Q424
IC408 EDGE DETECT
IC411 COUNTER
IC410 S/G SELECT
BLUE BUFF Q423
CHROMA SETUP AMP 1,2 Q443,444
Q428 SHARPNESS BUFF
Y BUFF Q410
B-Y BUFF Q409
B BUFF Q416
G BUFF Q415
R BUFF Q414
DL 401
IC402 R-Y GAIN CONT AMP
B-Y/B
Y/G
R-Y/R
VP
MUTE
VOL
PAL/NT
Q323 PAL SW
D422 SW
IC409 ON/OFF MUTE
MUTE 2
D421 SW
OFF MUTE SW Q418
RESET
Q431
D410 SW
D109 MUTE
D100
MUTE BUFF Q110,112
D108 SW
Q434 MUTE/RGB SW
OSD BLK
D423 SW
IC107 DAC 4
LOAD
CLK
DATA
H-DELAY
V-DELAY
V-LIN
V-SIZE
PIN-OUT
V-HOLD
V-CENT
H-BLK
V-BLK
H-FREQ
VIDEO PHASE
AFC-OUT
H DL DAC
V DL DAC
V LINE DAC
V SIZE DAC
PIN DAC
V HOLD
V CENT
V BLK DAC
H FREQ DAC
V PHASE DAC
V SHORT SW Q108
V BLK
AFC DAC
CN402
C
CN401
D
VP
R OUT
G OUT
B OUT
IK
CN301
VIDEO/Y
SC
LINE C
RGB COMP
G/G-Y
R/R-Y
B/B-Y
LINE A
E
VIDEO IN BUFF 2 Q303
BPF400 3.58 BPF
FL401 4.43 BPF
IC320 CHROMA BPF SEL
BPF-SW BUFF Q322
IC316 SECAM CHROMA SEL
CP300
CP301
F300
PAL TRAP BUFF1,2 Q306,310
IC314 Y-SW
Y-SW BUFF Q319
D304 SW
SECAM SW Q314,Q303
Q363 TEST BUFF
443/358
AMP 1
TO AMP 2
BURST GATE PULSE
4FSC VCXO
APC DETECT
IC305(1/2) CHROMA DEMOD
COMP
ID PLS
KILLER DETECT
358 SW Q329,332
443 SW Q328
X301
X300
D311 XTAL ADJ
PAL SW Q324
PAL/NT
DL301 DL
DL300 DL
IC321 Y-DL SW
Y AMP 1,2 Q326,327
IC306 G/Y SW
RGB COMP
D365 SW
D313 SW
B/W
EXT-SYNC SW Q361
EXT SYNC
IC313 SYNC SEL
SYNC SIGNAL BUFF Q325
OSD BLK
IC322 G-Y SEL
G/Y BUFF Q341
IC311 SAMPL
IC305(2/2) CHROMA-DEMOD
R-Y DEMOD
B-Y DEMOD
R-Y BUFF 1 Q330
B-Y BUFF 1 Q331
D308 SW
IC309 R/R-Y SW
IC312 B/B-Y SW
BELL FIL BUFF Q334
T300
BELL FIL BUFF Q337
IC324 R/R-Y SEL
IC323 B/B-Y SEL
R/R-Y BUFF Q342
B/B-Y BUFF Q343
IC311 SAMPLE
IC326 HOLD AMP
D347 OSD R CLAMP
D346 OSD B CLAMP
INSERT PULSE
IC310 BLACK INSERT
R/R-Y BUFF 2 Q352
B/B-Y BUFF 2 Q353
G/Y PEDE
HOLD Q360
D381
CLP1
U-PAL OPE
D300 PHASE ADJ
PHASE SHIFT Q300
IC304 SYS SW2
IC409 ON/OFF MUTE
G/Y PEDE
HUE DAC
COL CONT
COL DAC
FROM AMP 1
AMP 2
B-Y BUFF Q349
R-Y BUFF Q348
BUFFER Q320
D345 OSD GCLAMP
IC304 SYS SW2
CP302 PAL/UV
SECAM SW
BUFF Q302
SECAM
IC303 SECAM DECODER
ID SW Q336
ID SW Q346
SECAM DL
D416~418 OSD RGB MIX
Q435~437 OSD DOWN SW
OSD-ON

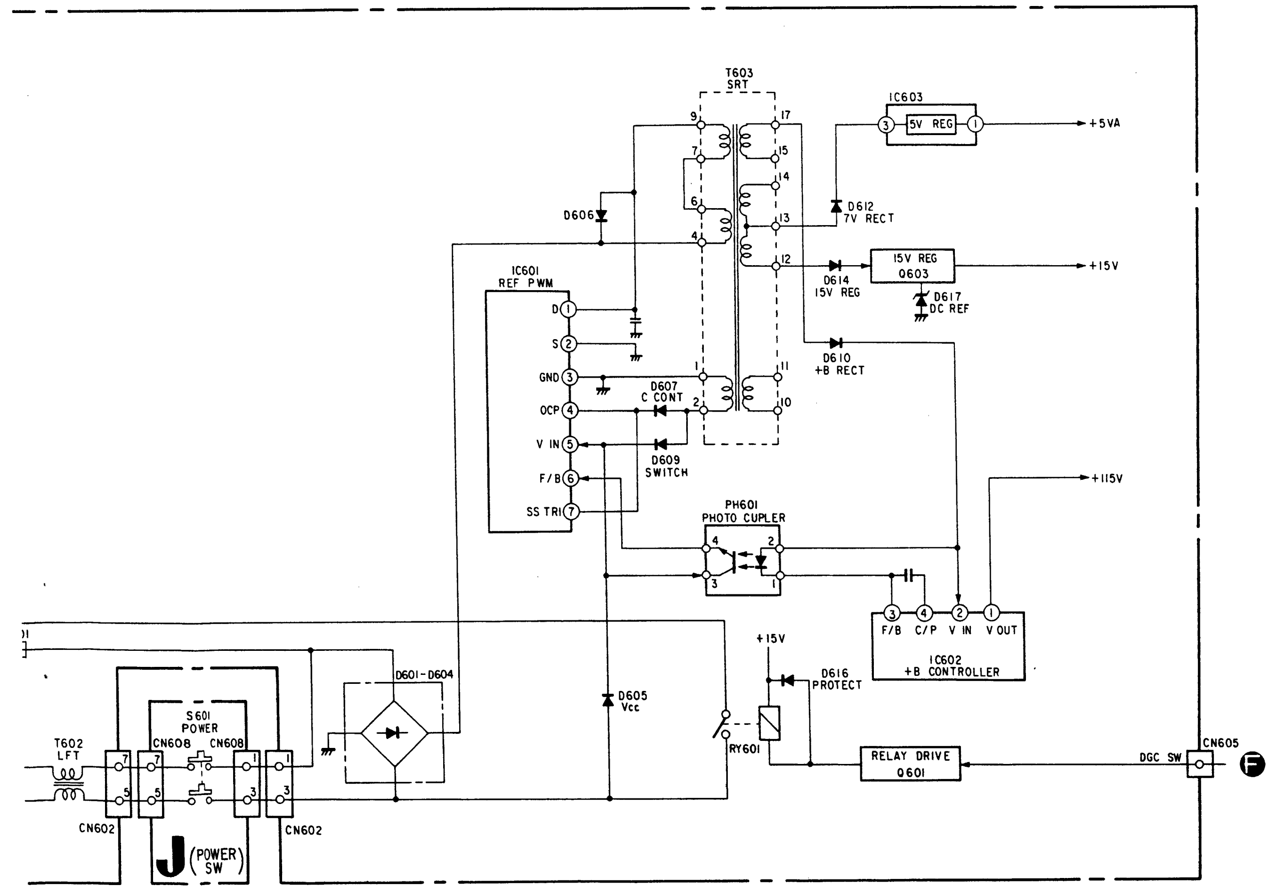

IC320 CHROMA BPF SEL
BPF-SW BUFF Q322
IC305(1/2) CHROMA DEMOD
AMP 1
BURST GATE PULSE
4FSC VCXO
APC DETECT
SYNC SEP
KILLER DETECT
ID PLS
COMP
TO R-Y B-Y DEMOD
358 SW Q329,332
443 SW Q328
X301
X300
D311 XTAL ADJ
Q363 TEST BUFF
PAL SW Q324
B/W SW D307,309 Q321
IC318 NOT-GATE
D310 CLAMP
IC302 PAL-60-102
IC314 Y-SW
Y-SW BUFF Q319
DL301
DL300
IC321 Y-DL SW
Y AMP 1, 2 Q326,327
IC306 G/Y SW
RGB COMP
EXT-SYNC SW Q361
IC313 SYNC SEL
SYNC SIGNAL BUFF Q325
SYNC SEP BLOCK Q301,305,307~309 Q311~313,315,318
SYNC BUFF Q333
COMP SYNC
IC322 G-Y SEL
G/Y BUFF Q341
IC311 SAMPL
G/Y BUFF 2 Q351
IC326 HOLD AMP
BRIGHT UP 1
D315 7.5UP SW
BELL FIL BUFF Q334
T300
BELL FIL BUFF Q337
IC309 R/R-Y SW
IC324 R/R-Y SEL
R/R-Y BUFF Q342
IC310 BLACK INSERT
R/R-Y BUFF 2 Q352
INSERT PULSE
D347 OSD R CLAMP
IC312 B/B-Y SW
IC323 B/B-Y SEL
B/B-Y BUFF Q343
B/B-Y BUFF 2 Q353
D346 OSD B CLAMP
IC350 BUFF AMP
HOLD Q360
D381
IC318 NOT-GATE
BURST BLK Q317
V-PULSE SW Q364
D327 SW
MUTE SW Q345
BUFFER Q320
B-Y BUFF Q349
R-Y BUFF Q348
IC304 SYS SW2
BUFF Q302
CP302 PAL/UV
SECAM SW
IC303 SECAM DECODER
SECAM SW Q347
D339 SWITCH
D324 R-Y COLOR BALANCE
D326 B-Y BALANCE
D337 SECAM SW
D332 RGB COMP SW
IC326 (2/4) HOLD AMP
ID SW Q336
ID SW Q346
B/W SW2 Q354
D361 SW
IC504 V GAIN CONT AMP 2
IC508 V GAIN CONT AMP 1
V SIZE DAC
V LINE DAC
PAL H
D536 BIAS
V CENT OUT2 Q524
V CENT OUT1 Q525
V CENT CONT Q523
D520 MICON V SW
V CENT
D540 V BLK SW1
V.CENT SW Q514
50/60
IC509 PIN-COM
U/S SW Q519
PIN OUT Q503
L509
50/60 SW Q508
V ZOOMING Q506
V DRIVE Q512
V OUT 1 Q513
V OUT 2 Q515
D523 V.DRIVE
H.P BUFF Q522
DGC SW
CN504
H BLK Q504
H BLK BUFF Q507, Q516
H.V PHASE LOCK SW Q517
D511 H.P SW
H BLK 1 Q505
IC507(1/3) DIFRECTION
SYNC SEP
IC507(2/3) DIFRECTION
V OSC
V DRIVE
V BLK
L514
L516
L511 PMC
FAILURE SW Q526,527
H PULSE
RV501 H CENT
D525 H CENT 1
D524 H CENT 2
D506 DAMPER
CN501 TO DY
D502 D512 PIN DAMPER
D508 HV-DELAY SW
AFC DAC
H FREQ OPE
V PHASE DAC
D522 DC UP
D517 SW
IC503 H-DELAY MONO MULTI
D500 SPEED UP
H SYNC
AFC
H OSC
H DRIVE
PROT
IC507(3/3) DIFRECTION
H DRIVE Q502
T500
H OUT Q501
CN502 TO PICTURE TUBE
D505 G2 RECT
CURR LIMI 1,2 Q500,511
H DL DAC
COMP SYNC
ABL
D507 HV-DELAY SW
IC502 V-DELAY MONO MULTI
V IN
VIDEO V
V DL DAC
IC500 X-RAY PROT
T501 FBT
D515 180V RECT
D533 PROT
D510 15V RECT
D514 24V RECT
HV
FOCUS
12V REG IC505
IC325 AUDIO SEL
A MUTE2
12V REG Q200
Q201 MUTE
A MUTE
VOL
DC VOL ATT
AUDIO OUT
IC200 AUDIO OUT
AF OUT
CN201 TO SPEAKER
F

BLOCK DIAGRAMS (2)


Q (INPUT SIGNAL SELECT)
VIDEO
LINE A
IN
OUT
LINE B
AUDIO
Y/C
LINE C
S-AUDIO
RGB
R IN
G IN
B IN
AUDIO IN
SYNC IN
V.A. BUFFER Q2417
V.B. BUFFER Q2415
LINE A MUTE Q2401
IC2405
VIDEO IN BUFFER Q2416
A.A. BUFFER Q2405
A.B. BUFFER Q2404
IC2403
IC2404
C. BUFFER Q2412
Y. BUFFER Q2414
A.S. BUFFER Q2403
R. BUFFER Q2411
G. BUFFER Q2410
B. BUFFER Q2409
A. RGB BUFFER Q2402
S. BUFFER Q2408
CN306
VIDEO-Y
LINE A
LINE C
RGB.COMP
S-C
R
G
B
E
CN307
AUDIO
SYNC
SCK
SI
A
CN2401
AC IN
CN604
AC
H (CONTROL)
VOLUME
CONTRAST
PHASE
CHROMA
BRIGHT
APERTURE
RV2101
RV2103
RV2105
RV2109
RV2113
RV2117
CN105
APER
BRT
CHROMA
PHASE
CONT
VOL
KEY A/D2
C
D
D2102 POWER
12V
DOWN
UP
SELECT
MENU
S2113
S2106
S2114
S2107
S2109 BLUE ONLY
S2108 DEGAUSS
S2104 LINE/RGB
S2103 LINE C
S2102 LINE B
S2101 LINE A
B/O
DG
LINE/RGB
C
B
A
C (R·G·B OUT)
CN701
R
G
B
V, P
IK
R,G,B DRIVE Q703,702,701
R·G·B OUT Q709,708,707
R,G,B BUI Q706,705,
TRACE SW1-3 Q715,716,717
V·BLK INT Q714
PROTECT D715,716,717
V·BLK OUT Q713
PROTEC D709,708,
IK SWI- Q712,711,
G2
RV709 SCREEN
180V
G (POWER)
T603 SRT
IC603 5V REG
D612 7V RECT
D606
IC601 REF PWM
D
S
GND
OCP
V IN
F/B
SS TRI
D614 15V REG
15V REG Q603
D617 DC REF
D610 +B RECT
D607 C CONT
D609 SWITCH
PH601 PHOTO CUPLER
F/B C/P V IN
IC602 +B CONTROLLER
+15V
D616 PROTECT
RY601
RELAY DRIVE Q601
CN603
DGC
THP601
D601-D604
D605 Vcc
CN601
AC IN
F601
F602
T601 LFT
T602 LFT
CN602
CN608
S601 POWER
J (POWER SW)

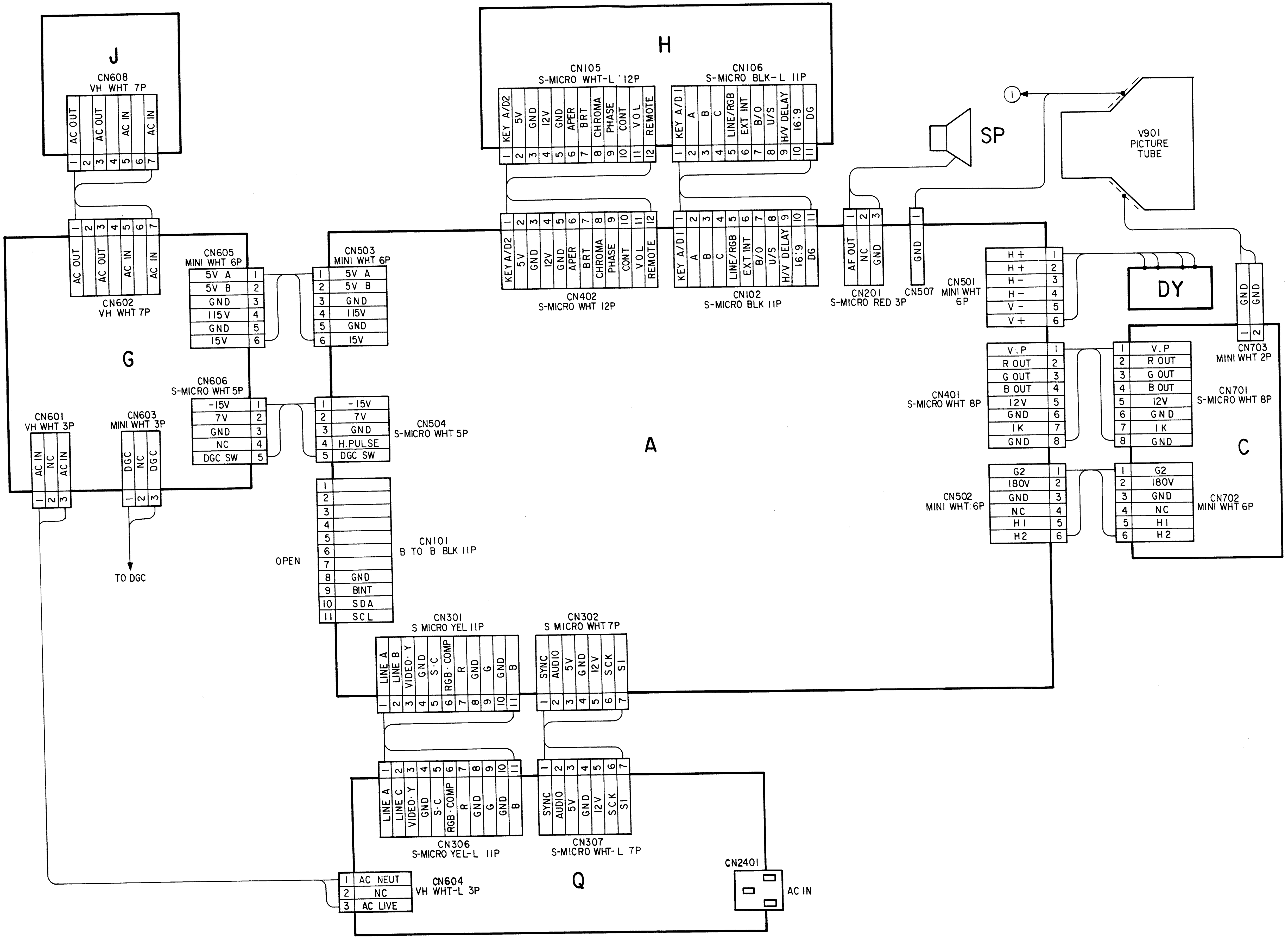


C (R·G·B OUT)
PHASE
CHROMA
BRIGHT
APERTURE
RV2103
RV2105
RV2109
RV2113
RV2117
APER
BRT
CHROMA
PHASE
CONT
VOL
KEY A/D2
CN105
DOWN
UP
SELECT
MENU
S2113
S2106
S2114
S2107
CN701
R
G
B
V, P
IK
R,G,B DRIVE
Q703, 702, 701
R·G·B OUT
Q709, 708, 707
R,G,B BUFFER
Q706, 705, 704
TRACE SW1-3
Q715, 716, 717
V·BLK INT
Q714
PROTECT
D715, 716, 717
PROTECT
D709, 708, 707
V·BLK OUT
Q713
IK SW1-3
Q712, 711, 710
G2
RV707
FOCUS
RV709
SCREEN
180V
RV708
H STAT
G4
G2
CV
R,G,B
V901
PICTURE TUBE
H1, H2
HV
TO A BOARD
S2109
BLUE ONLY
S2108
DEGAUSS
S2104
LINE/RGB
S2103
LINE C
S2102
LINE B
S2101
LINE A
CN106
KEY A/D1
A
B
C
LINE/RGB
B/O
DG
B/O
DG
LINE/RGB
C
B
A



T603
SRT
IC603
5V REG
+5VA
D606
D612
7V RECT
15V REG
Q603
+15V
D614
15V REG
D617
DC REF
D610
+B RECT
IC601
REF PWM
D
S
GND
OCP
V IN
F/B
SS TRI
D607
C CONT
D609
SWITCH
+115V
PH601
PHOTO CUPLER
F/B
C/P
V IN
V OUT
IC602
+B CONTROLLER
+15V
D616
PROTECT
D601-D604
D605
Vcc
RY601
RELAY DRIVE
Q601
DGC SW
CN605
T602
LFT
S601
POWER
CN608
CN608
CN602
CN602
J (POWER SW)

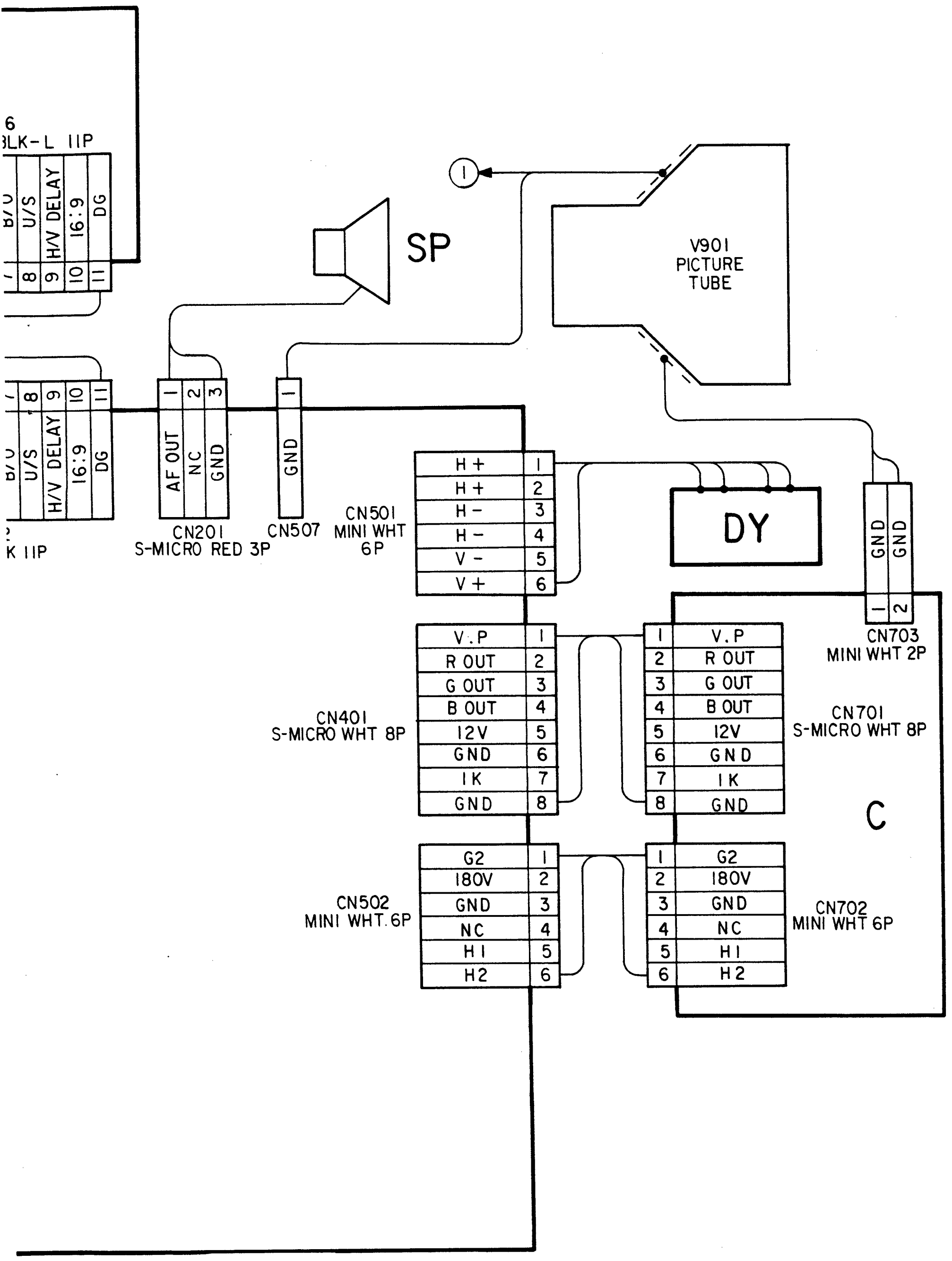
6-2. FRAME SCHEMATIC DIAGRAMS

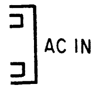

J
CN608
VH WHT 7P
AC OUT
AC OUT
AC IN
AC IN
H
CN105
S-MICRO WHT-L 12P
KEY A/D2
5V
GND
12V
GND
APER
BRT
CHROMA
PHASE
CONT
VOL
REMOTE
CN106
S-MICRO BLK-L 11P
KEY A/D1
A
B
C
LINE/RGB
EXT INT
B/O
U/S
H/V DELAY
16:9
DG
SP
V901
PICTURE
TUBE
G
CN602
VH WHT 7P
CN605
MINI WHT 6P
5V A
5V B
GND
115V
GND
15V
CN503
MINI WHT 6P
CN606
S-MICRO WHT 5P
-15V
7V
GND
NC
DGC SW
CN504
S-MICRO WHT 5P
H.PULSE
CN601
VH WHT 3P
AC IN
NC
AC IN
CN603
MINI WHT 3P
DGC
NC
DGC
TO DGC
OPEN
CN101
B TO B BLK 11P
GND
BINT
SDA
SCL
CN402
S-MICRO WHT 12P
CN102
S-MICRO BLK 11P
CN201
S-MICRO RED 3P
AF OUT
NC
GND
CN507
CN501
MINI WHT 6P
H+
H+
H−
H−
V−
V+
DY
CN703
MINI WHT 2P
A
CN401
S-MICRO WHT 8P
V.P
R OUT
G OUT
B OUT
12V
GND
IK
GND
CN701
S-MICRO WHT 8P
C
CN502
MINI WHT 6P
G2
180V
GND
NC
H1
H2
CN702
MINI WHT 6P
CN301
S MICRO YEL 11P
LINE A
LINE B
VIDEO·Y
GND
S·C
RGB·COMP
R
GND
G
GND
B
CN302
S MICRO WHT 7P
SYNC
AUDIO
5V
GND
12V
SCK
SI
CN306
S-MICRO YEL-L 11P
LINE A
LINE C
CN307
S-MICRO WHT-L 7P
Q
CN604
VH WHT-L 3P
AC NEUT
NC
AC LIVE
CN2401
AC IN
1

6-3.

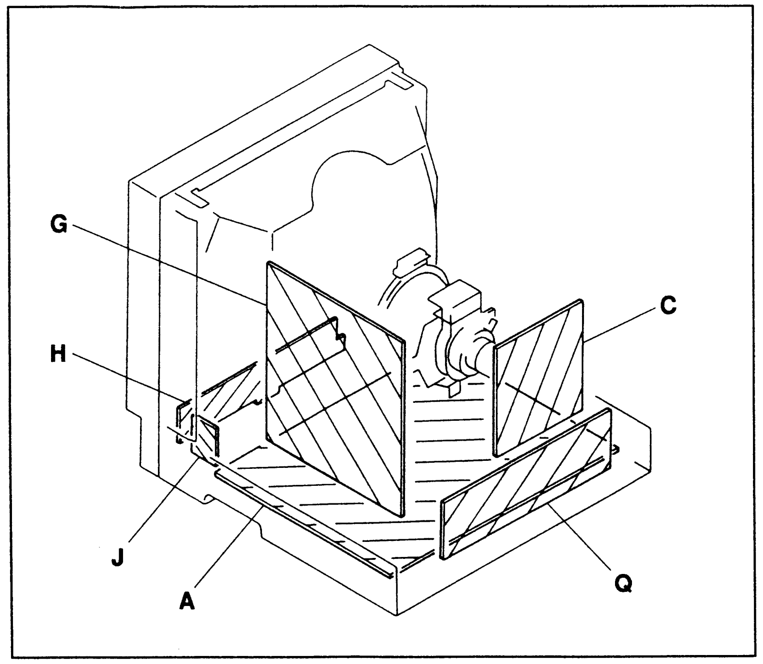
6-4.

Note


6
BLK-L 11P
U/S
H/V DELAY
16:9
DG
8
9
10
11
K 11P
SP
①
V901
PICTURE
TUBE
AF OUT
NC
GND
CN201
S-MICRO RED 3P
GND
CN507
CN501
MINI WHT
6P
H+
H+
H−
H−
V−
V+
DY
GND
GND
CN703
MINI WHT 2P
CN401
S-MICRO WHT 8P
V.P
R OUT
G OUT
B OUT
12V
GND
IK
GND
CN701
S-MICRO WHT 8P
C
CN502
MINI WHT 6P
G2
180V
GND
NC
H1
H2
CN702
MINI WHT 6P



6-3. CIRCUIT BOARDS LOCATION



6-4. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

Note:

- All capacitors are in µF unless otherwise noted. pF: µµF 50WV or less are not indicated except for electrolytics.
- All electrolytics are in 50V unless otherwise specified.
- All resistors are in ohms, 1/4W in resistance, 1/10W in chip resistance. kΩ=1000Ω, MΩ=1000kΩ
- ▭ : nonflammable resistor.
- ▭ : fusible resistor.
- △ : internal component.
- ▭ : panel designation and adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- The components identified by ⧓ in this basic schematic diagram have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation.
  Should replacement be required, replace only with the value originally used.
- When replacing components identified by ◪ , make the necessary adjustments indicated. If results do not meet the specified value, change the component identified by ⧓ and repeat the adjustment until the specified value is achieved. (Refer to R1535, R1536 adjust on Page 20 .)
- When replacing the part in below table, be sure to perform the related adjustment.

Part replaced (◪)	Adjustment (⧓)
IC500, IC507, Q500, Q501, D501, D533, C506, C512, C513, C523, C549, C592, R506, R508, R515, R516, R517, R518, R519, R551, R1535, R1536, R1537, T501 ······················(A BOARD) IC602, C603···············(G BOARD)	R1535, R1536 (HOLD-DOWN)

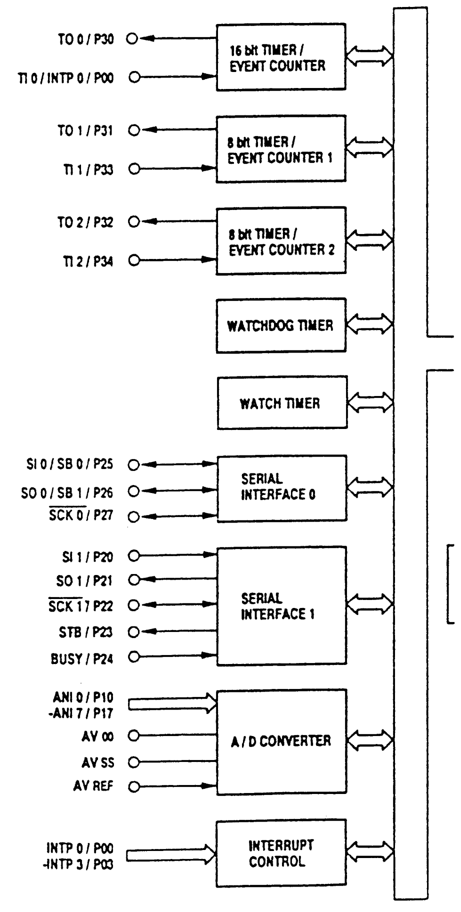
Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

- All voltage are in V.
- Voltage are dc with respect to ground unless otherwise noted.
- Readings are taken with a color-bar signal input.
- Voltage variations may be noted due to normal production tolerances.
- ▬ : B + bus.
- ▪▪▪ : B − bus.
- ➡ : Signal path.
- No mark : with PAL color-bar signal is received or common voltage.
- For the respective voltage ratings in NTSC 3.58, S-VIDEO and ANALOG RGB modes, see the table.

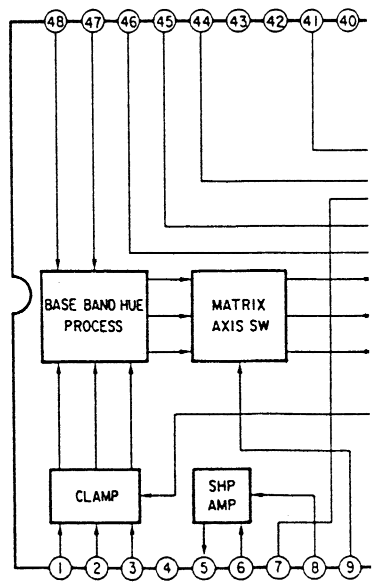
Reference information

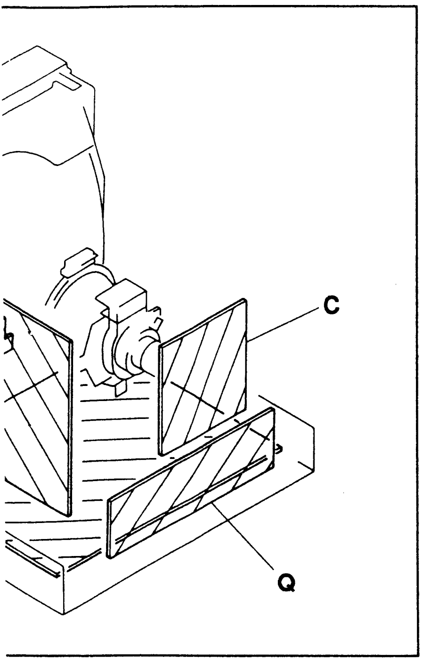
RESISTOR	: RN	METAL FILM
	: RC	SOLID
	: FPRD	NONFLAMMABLE CARBON
	: FUSE	NONFLAMMABLE FUSIBLE
	: RW	NONFLAMMABLE WIREWOUND
	: RS	NONFLAMMABLE METAL OXIDE
	: RB	NONFLAMMABLE CEMENT
COIL	: LF-8L	MICRO INDUCTOR
CAPACITOR	: TA	TANTALUM
	: PS	STYROL
	: PP	POLYPROPYLENE
	: PT	MYLAR
	: MPS	METALIZED POLYESTER
	: MPP	METALIZED POLYPROPYLENE
	: ALB	BIPOLAR
	: ALT	HIGH TEMPERATURE
	: ALR	HIGH RIPPLE

A BOARD IC101 µPD78013YCW


TO 0 / P30
TI 0 / INTP 0 / P00
16 bit TIMER / EVENT COUNTER
TO 1 / P31
TI 1 / P33
8 bit TIMER / EVENT COUNTER 1
TO 2 / P32
TI 2 / P34
8 bit TIMER / EVENT COUNTER 2
WATCHDOG TIMER
WATCH TIMER
SI 0 / SB 0 / P25
SO 0 / SB 1 / P26
SCK 0 / P27
SERIAL INTERFACE 0
SI 1 / P20
SO 1 / P21
SCK 1 / P22
STB / P23
BUSY / P24
SERIAL INTERFACE 1
ANI 0 / P10
-ANI 7 / P17
AV DD
AV SS
AV REF
A / D CONVERTER
INTP 0 / P00
-INTP 3 / P03
INTERRUPT CONTROL

A BOARD IC404 CXA1478


㊽
㊼
㊻
㊺
㊹
㊸
㊷
㊶
㊵
BASE BAND HUE PROCESS
MATRIX AXIS SW
CLAMP
SHP AMP
①
②
③
④
⑤
⑥
⑦
⑧
⑨



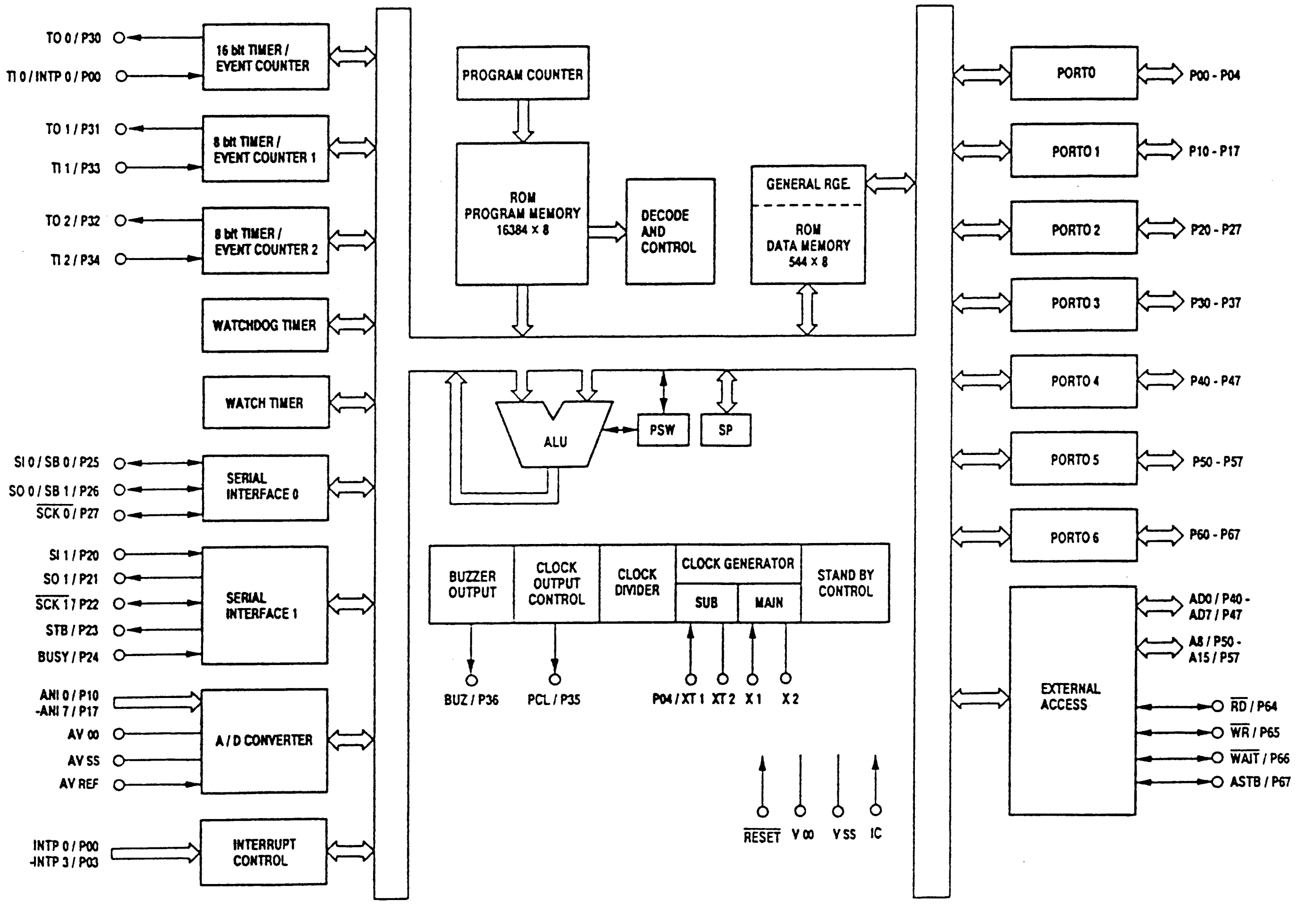
; DIAGRAMS

- All voltage are in V.
- Voltage are dc with respect to ground unless otherwise noted.
- Readings are taken with a color-bar signal input.
- Voltage variations may be noted due to normal production tolerances.
- ▬ : B + bus.
- ▪▪▪ : B − bus.
- ⇨ : Signal path.
- No mark : with PAL color-bar signal is received or common voltage.
- For the respective voltage ratings in NTSC 3.58, S-VIDEO and ANALOG RGB modes, see the table.

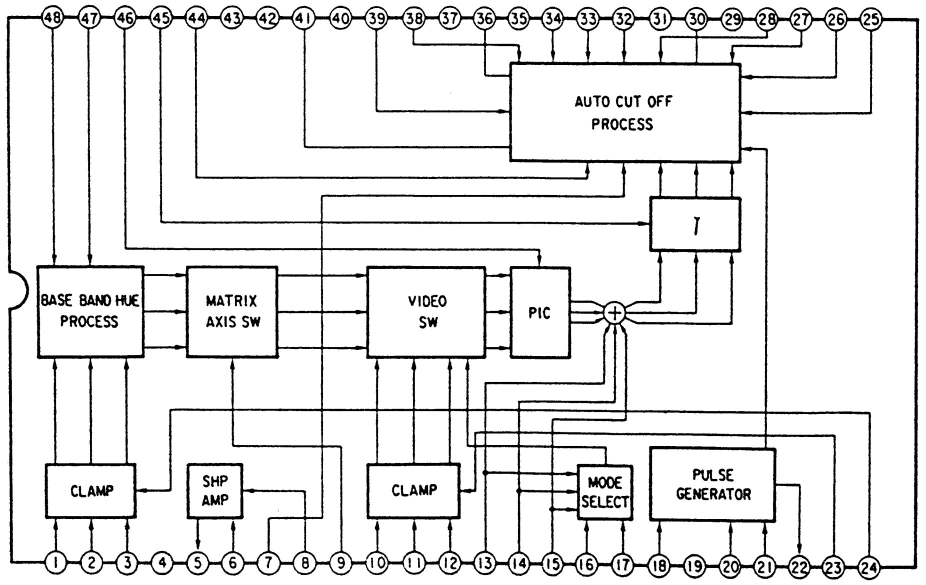
Reference Information

RESISTOR	: RN	METAL FILM
	: RC	SOLID
	: FPRD	NONFLAMMABLE CARBON
	: FUSE	NONFLAMMABLE FUSIBLE
	: RW	NONFLAMMABLE WIREWOUND
	: RS	NONFLAMMABLE METAL OXIDE
	: RB	NONFLAMMABLE CEMENT
COIL	: LF-8L	MICRO INDUCTOR
CAPACITOR	: TA	TANTALUM
	: PS	STYROL
	: PP	POLYPROPYLENE
	: PT	MYLAR
	: MPS	METALIZED POLYESTER
	: MPP	METALIZED POLYPROPYLENE
	: ALB	BIPOLAR
	: ALT	HIGH TEMPERATURE
	: ALR	HIGH RIPPLE

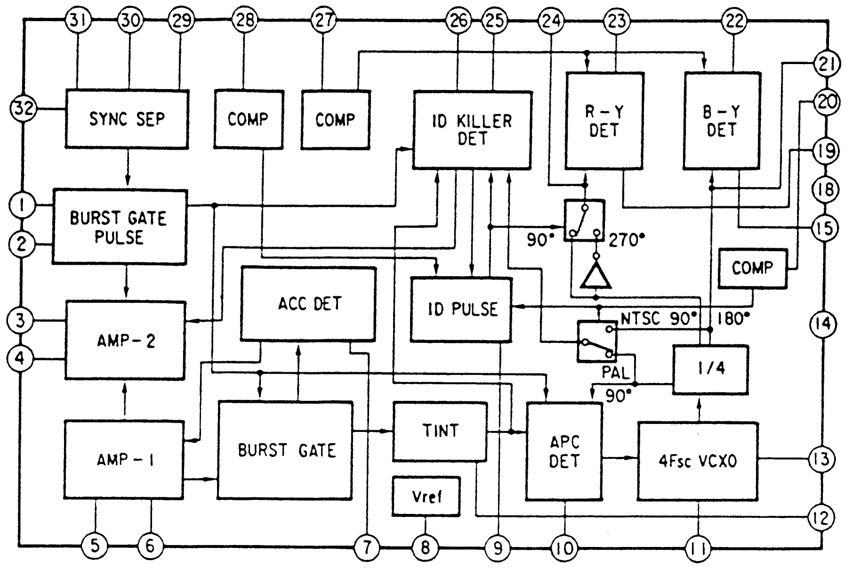
A BOARD IC101 µPD78013YCW


TO 0 / P30
TI 0 / INTP 0 / P00
16 bit TIMER / EVENT COUNTER
TO 1 / P31
TI 1 / P33
8 bit TIMER / EVENT COUNTER 1
TO 2 / P32
TI 2 / P34
8 bit TIMER / EVENT COUNTER 2
WATCHDOG TIMER
WATCH TIMER
SI 0 / SB 0 / P25
SO 0 / SB 1 / P26
SCK 0 / P27
SERIAL INTERFACE 0
SI 1 / P20
SO 1 / P21
SCK 1 / P22
STB / P23
BUSY / P24
SERIAL INTERFACE 1
ANI 0 / P10 -ANI 7 / P17
AV DD
AV SS
AV REF
A / D CONVERTER
INTP 0 / P00 -INTP 3 / P03
INTERRUPT CONTROL
PROGRAM COUNTER
ROM PROGRAM MEMORY 16384 x 8
DECODE AND CONTROL
GENERAL RGE.
ROM DATA MEMORY 544 x 8
ALU
PSW
SP
BUZZER OUTPUT
CLOCK OUTPUT CONTROL
CLOCK DIVIDER
CLOCK GENERATOR
SUB
MAIN
STAND BY CONTROL
BUZ / P36
PCL / P35
P04 / XT 1
XT 2
X 1
X 2
RESET
V DD
V SS
IC
PORT0
PORT0 1
PORT0 2
PORT0 3
PORT0 4
PORT0 5
PORT0 6
P00 - P04
P10 - P17
P20 - P27
P30 - P37
P40 - P47
P50 - P57
P60 - P67
EXTERNAL ACCESS
AD0 / P40 - AD7 / P47
A8 / P50 - A15 / P57
RD / P64
WR / P65
WAIT / P66
ASTB / P67

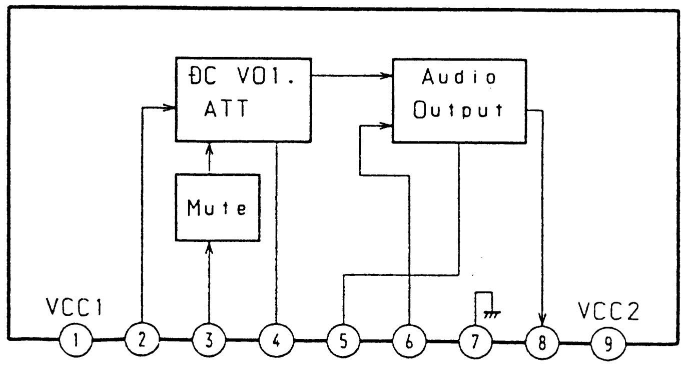
A BOARD IC404 CXA1478


AUTO CUT OFF PROCESS
T
BASE BAND HUE PROCESS
MATRIX AXIS SW
VIDEO SW
PIC
CLAMP
SHP AMP
CLAMP
MODE SELECT
PULSE GENERATOR
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
48 47 46 45 44 43 42 41 40 39 38 37 36 35 34 33 32 31 30 29 28 27 26 25

A BOARD IC305 M51279FP


31 30 29 28 27 26 25 24 23 22
32
SYNC SEP
COMP
COMP
ID KILLER DET
R − Y DET
B − Y DET
21
20
19
18
1
2
BURST GATE PULSE
15
90°
270°
COMP
3
4
AMP − 2
ACC DET
ID PULSE
NTSC 90°
180°
14
PAL
90°
1/4
AMP − I
BURST GATE
TINT
APC DET
4Fsc VCXO
13
Vref
12
5 6 7 8 9 10 11

A BOARD IC200 AN5265


DC VOl. ATT
Audio Output
Mute
VCC1
VCC2
1 2 3 4 5 6 7 8 9

A BOARD
(COMPONENT SIDE)

IC

IC101	B-2
IC102	B-1
IC103	C-1
IC104	C-2
IC105	C-3
IC106	C-3
IC107	C-2
IC109	C-4
IC110	C-4
IC111	C-3
IC200	B-7
IC302	I-3
IC303	F-2
IC304	H-1
IC305	H-2
IC306	H-4
IC309	G-4
IC310	E-3
IC311	F-4
IC312	G-4
IC313	H-3
IC314	I-5
IC316	I-6
IC318	E-2
IC320	H-6
IC321	G-6
IC322	F-6
IC323	F-6
IC324	F-5
IC325	F-5
IC326	F-3
IC350	E-2
IC401	B-5
IC402	E-5
IC403	C-6
IC404	D-6
IC405	D-6
IC406	C-7
IC407	C-6
IC408	D-7
IC409	D-7
IC410	B-6
IC411	B-7
IC412	C-5
IC413	C-5
IC500	I-11
IC502	I-7
IC503	H-8
IC504	D-9
IC505	G-8
IC507	E-9
IC508	D-9
IC509	D-9

TRANSISTOR

Q102	D-3
Q103	D-3
Q107	B-4
Q108	C-3
Q109	B-4
Q110	A-1
Q112	E-7
Q200	A-8
Q300	H-3
Q308	H-4
Q311	I-4
Q314	H-5
Q317	I-2
Q320	F-4
Q324	H-2
Q341	F-4
Q342	F-4
Q343	F-5
Q346	G-2
Q347	F-3
Q348	F-3
Q353	E-4
Q354	F-3
Q360	E-2
Q372	D-4
Q404	B-6
Q406	B-6
Q408	B-6
Q410	E-5
Q411	C-6
Q412	D-7
Q413	D-6
Q414	E-6
Q415	E-6
Q416	E-6
Q425	E-7
Q426	E-7
Q429	D-7
Q430	D-7
Q432	D-6
Q433	D-5
Q435	E-5
Q436	E-5
Q437	E-5
Q438	D-6
Q440	D-5
Q441	D-5
Q442	D-5
Q445	C-6
Q501	D-11
Q502	D-10
Q503	C-9
Q512	B-12
Q513	B-12
Q515	B-11
Q520	B-8
Q523	B-8
Q524	B-8
Q525	A-8
Q527	C-10

DIODE

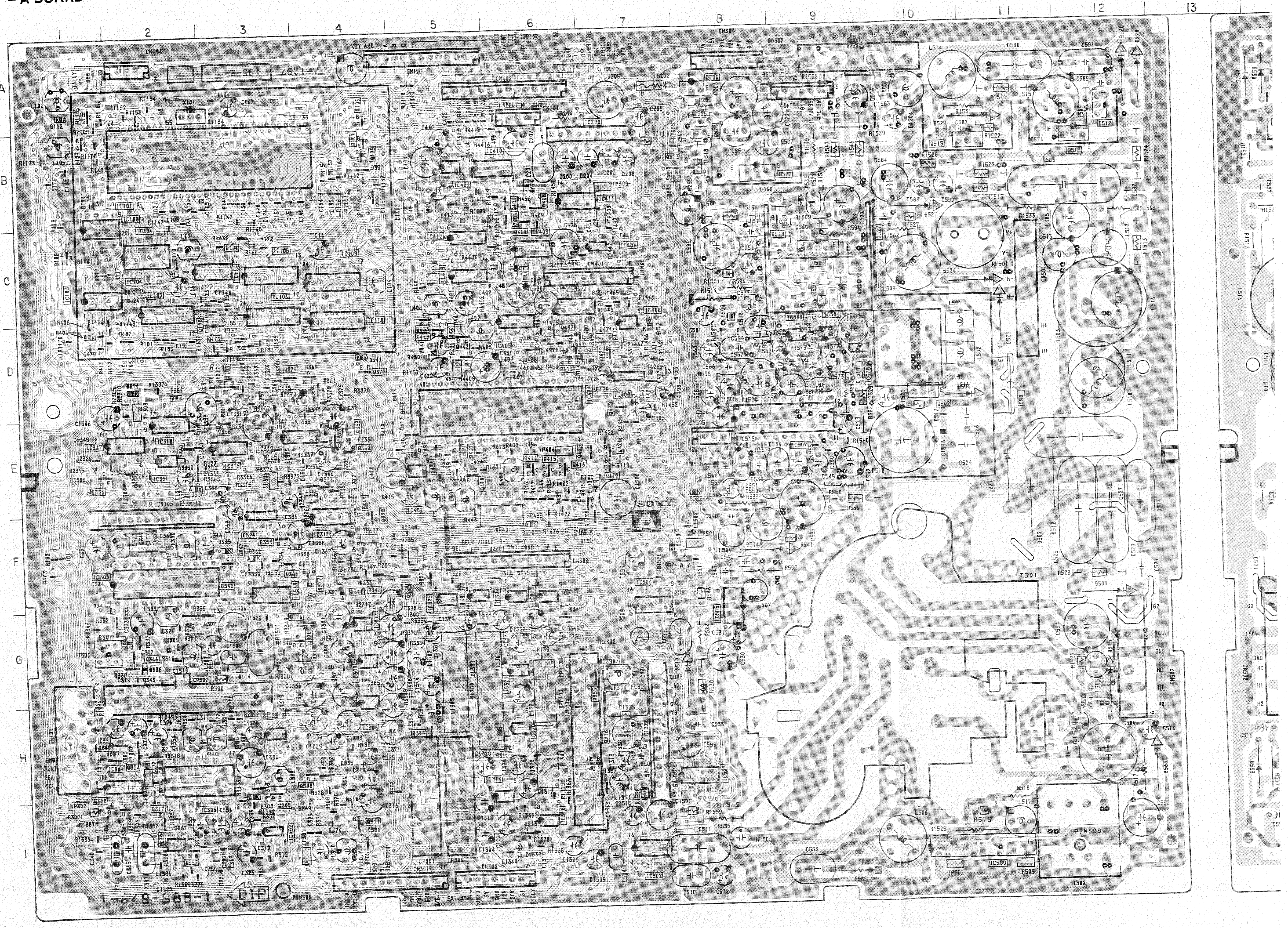
D100	E-7
D104	B-1
D105	C-1
D106	B-4
D108	F-7
D109	B-1
D113	B-6
D300	H-3
D305	I-4
D308	H-3
D312	H-2
D313	I-6
D327	E-4
D332	F-4
D335	G-2
D336	G-2
D338	F-3
D339	F-3
D361	D-4
D365	H-6
D381	D-2
D406	D-1
D414	D-5
D415	E-7
D416	D-5
D417	E-5
D418	E-5
D423	D-7
D424	B-6
D502	F-11
D504	D-11
D505	F-12
D506	E-11
D510	G-8
D512	E-11
D514	F-8
D515	G-12
D520	F-8
D522	E-8
D524	C-11
D525	C-11
D527	B-10
D528	A-12
D529	B-11
D530	A-12
D533	H-12
D535	B-7
D538	E-8
D539	B-9
D540	F-7

VARIABLE RESISTOR

RV501	C-11

Note:
- ▨ : Pattern from the side which enables seeing.
- ▩ : Pattern of the rear.

– A BOARD – <Component Side>



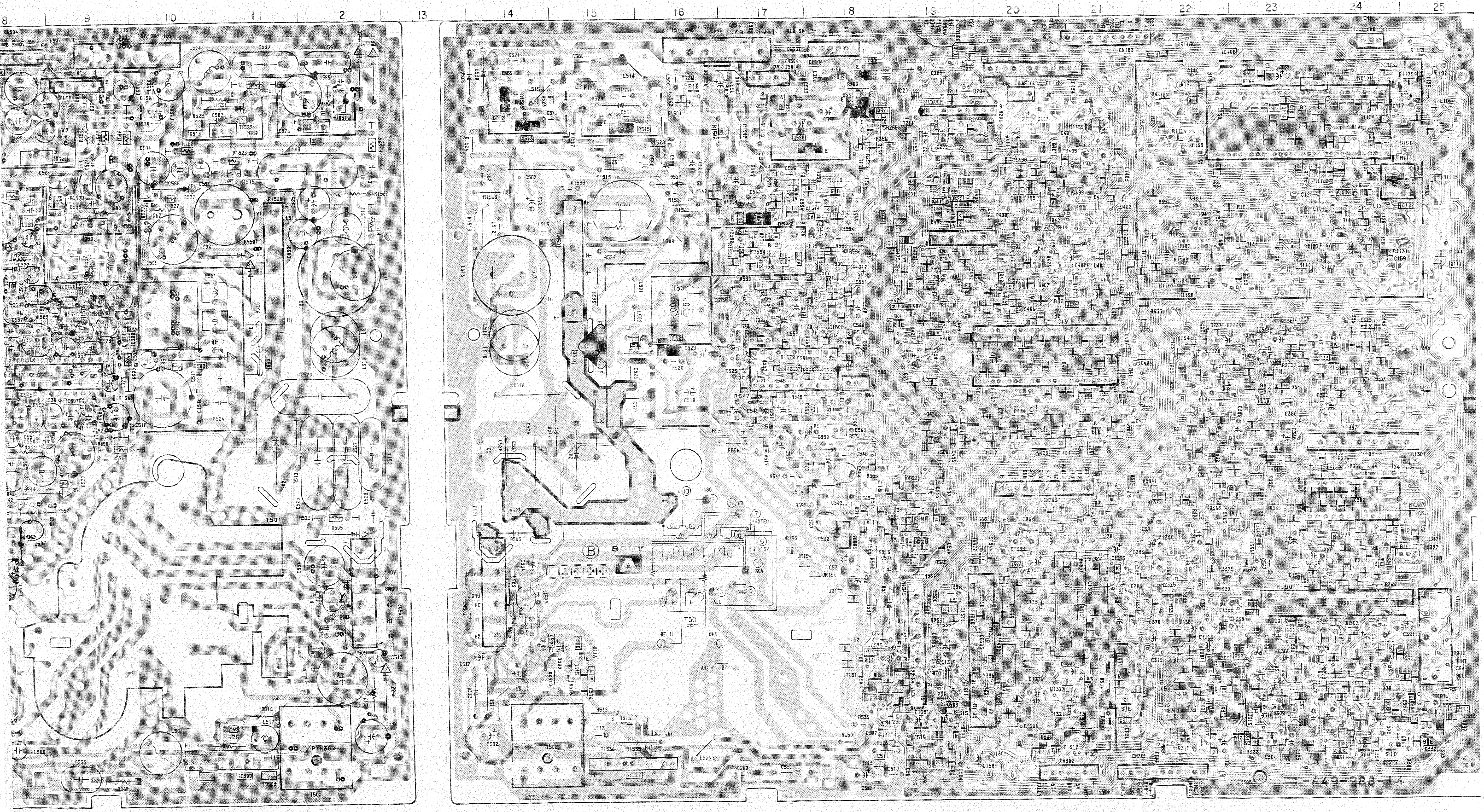
A

MICON, RGB-MATRIX, DAC,
ON SCREEN DISPLAY, ON/OFF MUTE,
VOL OFF SW, BLACK-SAMPLING, RGB SW

CHROMA DEMOD, SECAM CHROMA SELECT, SYSTEM SW,
SYNC SELECT, B/B-Y SW, R/R-Y SW, G/Y SW,
AUDIO SELECT, SECAM DECORDER, HOLD AMP

H/V OUT, DEFLECTION SYSTEM,
AUDIO OUT

<Conductor Side>


8
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18
19
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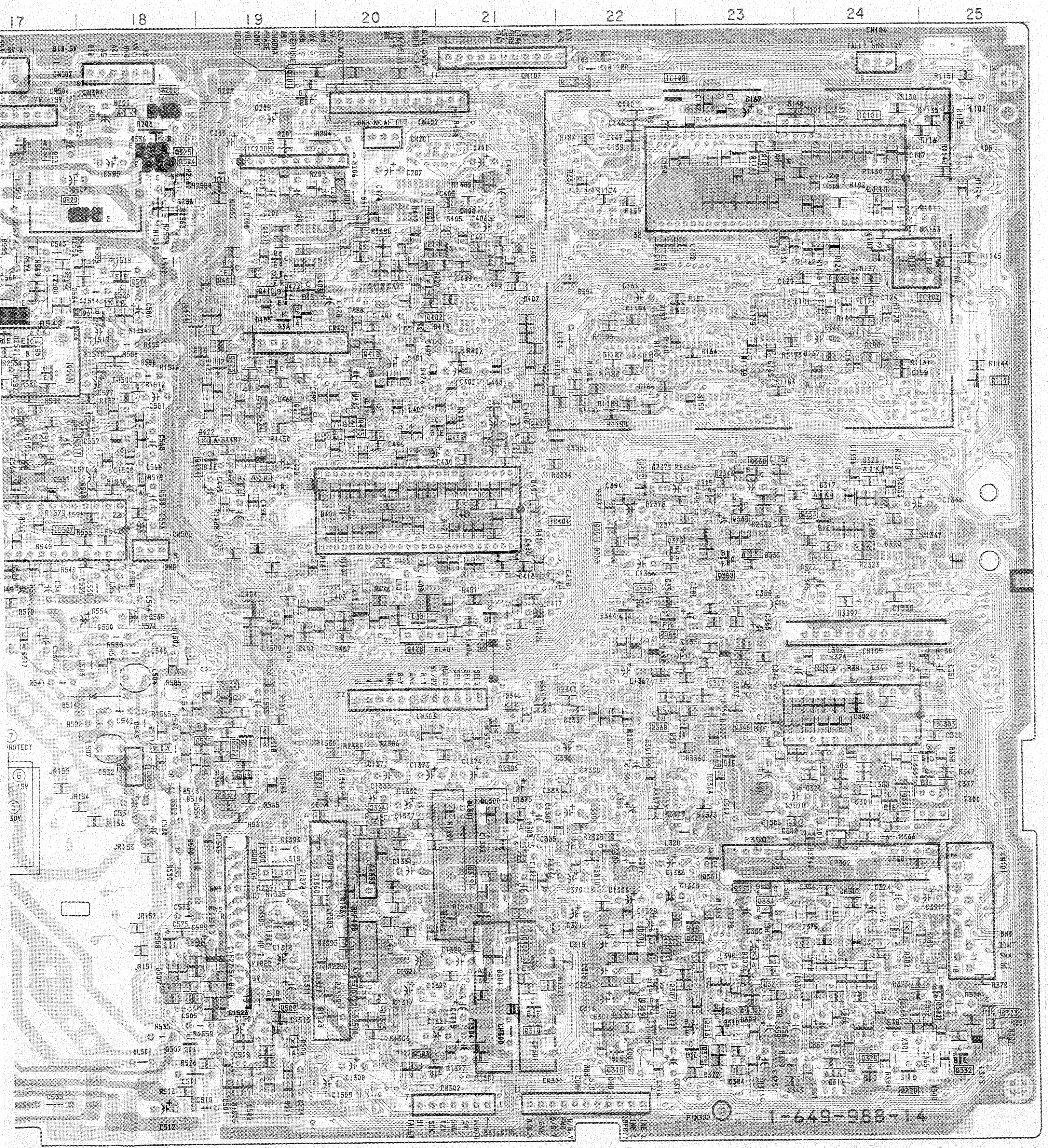
21
22
23
24
25
T501 FBT
PROTECT
SONY
A
B
1-649-988-14

MOD, SECAM CHROMA SELECT, SYSTEM SW,
T, B/B-Y SW, R/R-Y SW, G/Y SW,
CT, SECAM DECORDER, HOLD AMP

[H/V OUT, DEFLECTION SYSTEM,
AUDIO OUT]



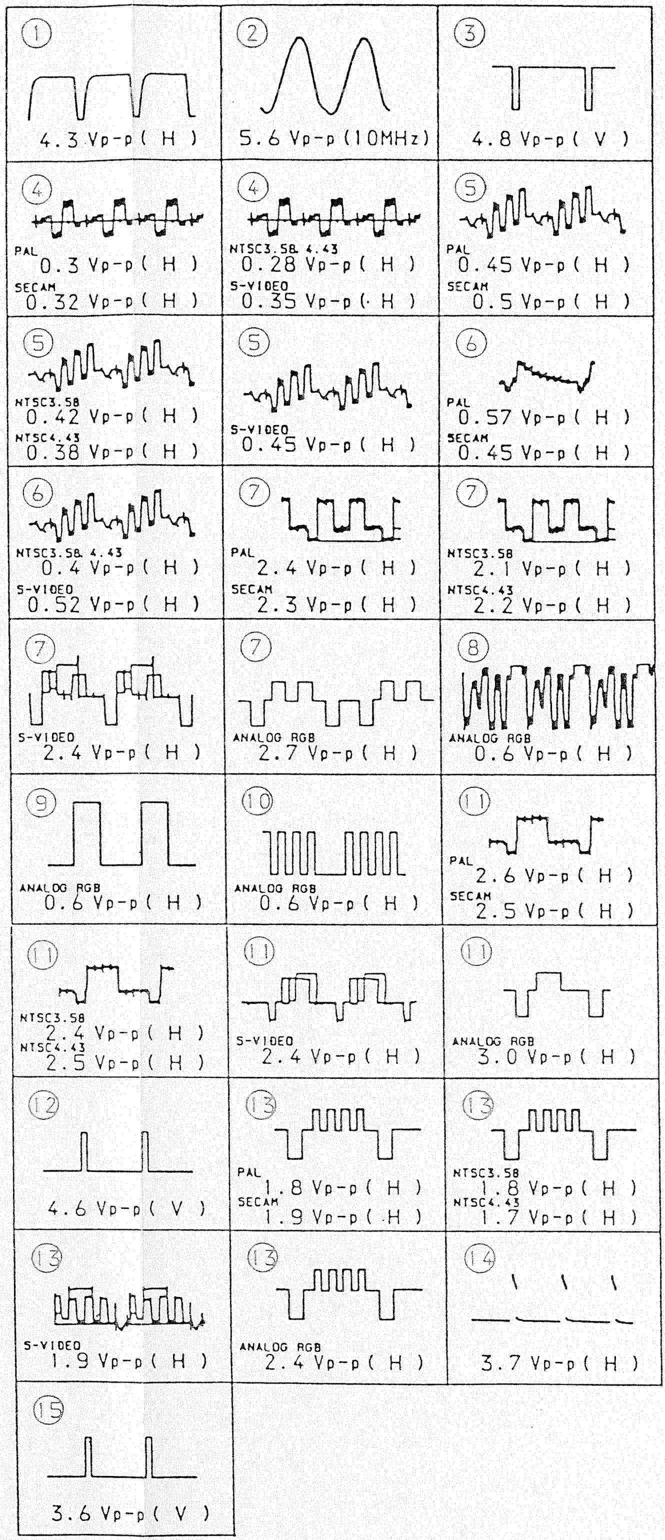
A BOARD (CONDUCTOR SIDE)

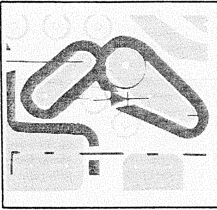
IC	
IC108	A-22

TRANSISTOR	
Q101	B-23
Q111	C-25
Q113	A-22
Q114	B-23
Q201	A-19
Q301	H-22
Q302	I-25
Q303	I-20
Q305	H-22
Q306	H-21
Q307	H-22
Q309	I-22
Q310	I-21
Q312	I-22
Q313	I-23
Q315	I-23
Q318	I-22
Q319	H-21
Q321	H-23
Q322	H-20
Q323	I-25
Q325	H-23
Q326	G-20
Q327	G-20
Q328	I-24
Q329	I-24
Q330	H-23
Q331	H-23
Q332	I-25
Q333	E-24
Q334	G-24
Q336	G-25
Q337	G-25
Q345	E-22
Q349	F-23
Q350	E-23
Q351	E-22
Q352	D-22
Q361	G-23
Q363	I-24
Q364	E-22
Q401	B-20
Q402	C-20
Q403	C-19
Q405	D-20
Q407	D-21
Q409	E-21
Q417	D-19
Q418	C-19
Q419	C-20
Q420	D-20
Q421	B-19
Q422	C-19
Q423	C-19
Q424	D-19
Q428	F-20
Q431	C-19
Q434	D-19
Q439	D-20
Q443	C-19
Q444	C-18
Q500	H-15
Q504	G-19
Q505	F-19
Q506	C-18
Q507	F-19
Q508	C-17
Q511	H-15
Q514	C-18
Q517	D-18
Q519	C-17
Q522	F-19
Q526	A-16

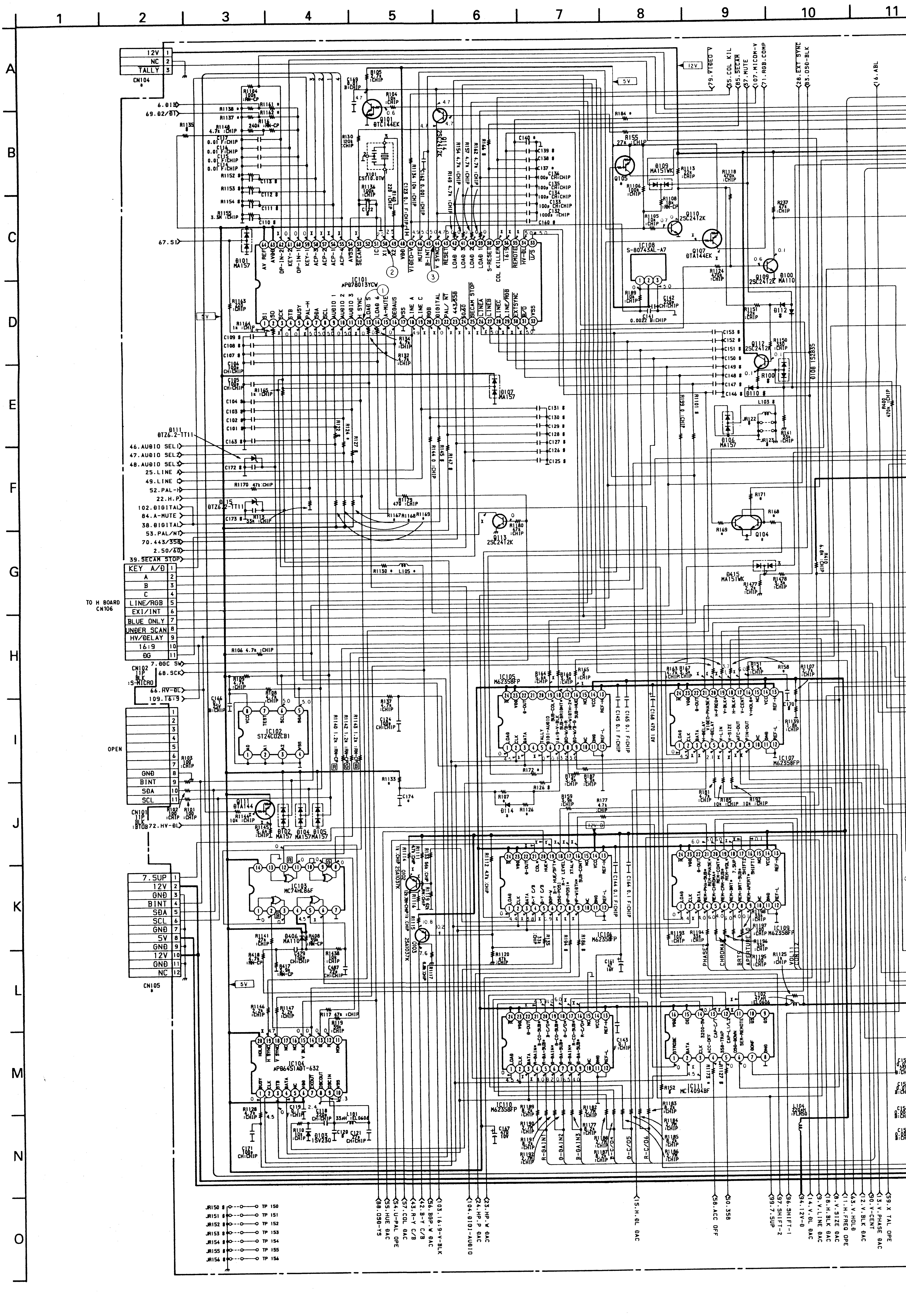
DIODE	
D101	B-24
D102	B-24
D103	C-24
D107	B-24
D111	B-24
D115	C-24
D116	H-15
D200	A-18
D301	I-22
D302	H-24
D303	G-21
D304	H-21
D307	H-23
D309	I-23
D310	I-23
D311	I-24
D315	F-23
D317	D-24
D320	E-24
D322	E-24
D323	D-24
D324	G-24
D326	F-24
D337	F-23
D345	F-21
D346	F-21
D347	F-21
D401	B-21
D404	D-20
D405	C-19
D407	D-21
D408	B-5
D410	D-19
D411	C-19
D421	D-19
D422	D-19
D425	C-19
D427	C-20
D500	H-18
D501	I-16
D503	D-15
D507	I-18
D508	H-18
D511	F-18
D513	G-19
D516	G-19
D517	F-17
D518	F-19
D519	D-18
D523	A-14
D526	C-18
D531	B-17
D532	B-17
D534	C-17
D536	A-18

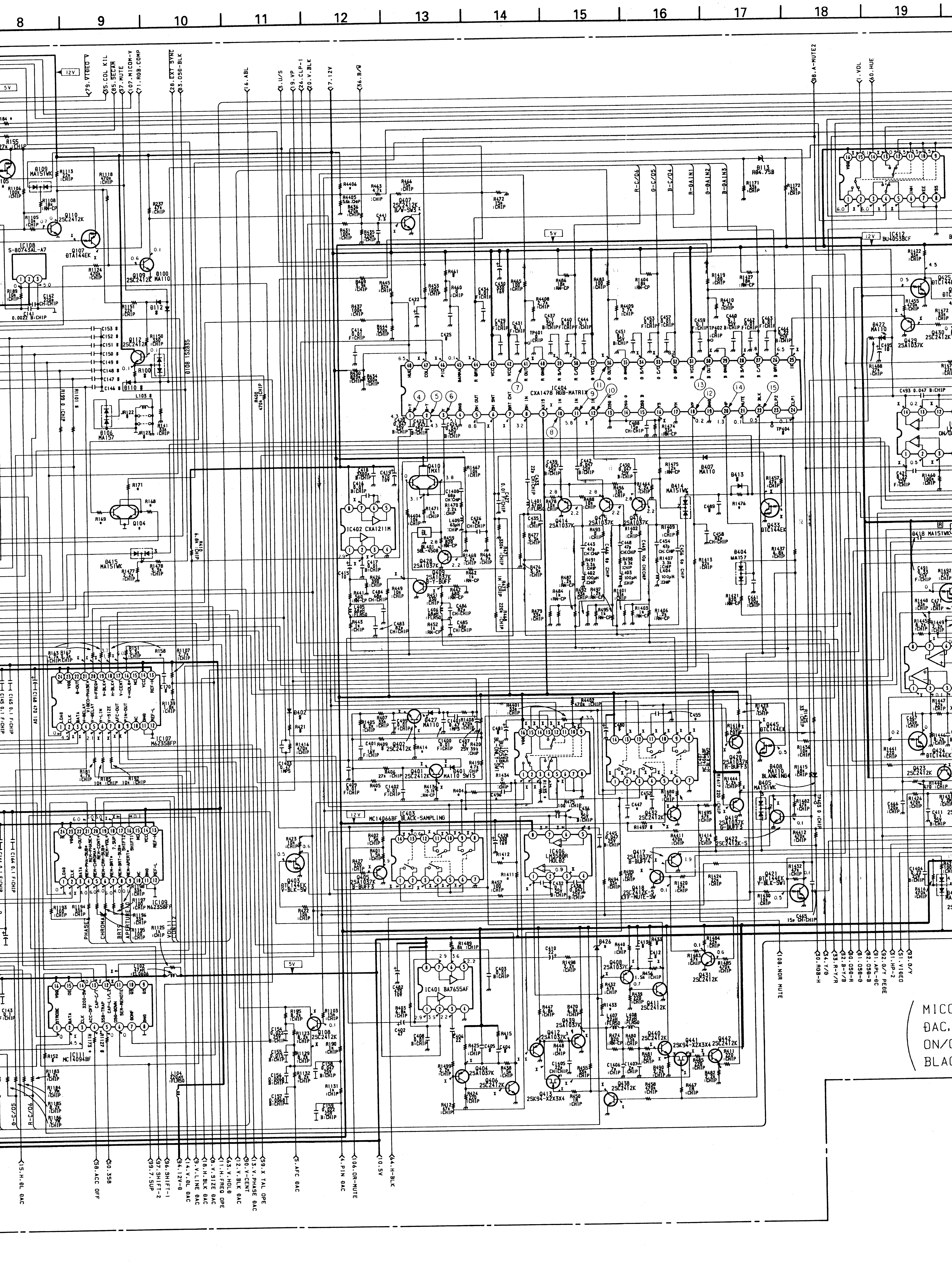
A (1/3) BOARD WAVEFORMS





NOTE:
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.


CN104
12V
NC
TALLY
IC101
μPD78013YCW
IC102
ST24C02CB1
IC103
MC74HC86F
IC104
μPB6451AGT-632
IC105
M62358FP
IC106
M62358FP
IC107
M62358FP
IC108
S-80743AL-A7
IC109
M62358FP
IC110
M62358FP
IC111
MC14094BF
X101
CST10.0TW
Q101
DTC144EK
Q102
2SC2412K
Q103
2SA1037K
Q104
Q105
Q107
DTA144EK
Q109
2SC2412K
Q110
2SC2412K
Q111
DTA144
Q112
2SC2412K
Q113
2SC2412K
TO H BOARD
CN106
KEY A/D
A
B
C
LINE/RGB
EXT/INT
BLUE ONLY
UNDER SCAN
HV/DELAY
16:9
DG
CN102
:S-MICRO
OPEN
GND
BINT
SDA
SCL
CN101
CN105
7.SUP
12V
GND
BINT
SDA
SCL
GND
5V
GND
12V
GND
NC
6.BID
69.BZ/BT
67.SI
46.AUDIO SEL1
47.AUDIO SEL2
48.AUDIO SEL3
25.LINE A
49.LINE C
52.PAL-H
22.H.P
102.DIGITAL
84.A-MUTE
38.DIGITAL
53.PAL/NT
70.443/358
2.50/60
39.SECAM STOP
7.DDC SW
68.SCK
66.AV-DL
109.16:9
72.HV-DL
79.VIDEO V
55.COL KIL
85.SECAM
87.MUTE
107.MICOM-V
71.RGB.COMP
28.EXT SYNC
83.DSD-BLK
14.ABL
88.DSD-YS
25.HUE DAC
54.V-PAL OPE
57.COL DAC
43.R-Y C/B
42.B-Y C/B
56.BGP W DAC
103.16:9-V-BLK
104.DIGI-AUDIO
23.HP.W DAC
24.HP.P DAC
15.H.DL DAC
58.ACC OFF
50.358
59.7.SUP
97.SHIFT-2
96.SHIFT-1
94.12V-D
14.V.DL DAC
9.V.LINE DAC
18.H.BLK DAC
11.H.FREQ OPE
8.V.SIZE DAC
63.V.HOLD
12.V.BLK DAC
90.V-CENT
3.V.PHASE DAC
59.X TAL OPE
R-GAIN
G-GAIN
B-GAIN
R-C/D4
G-C/D5
R-C/D6
PHASE
CHROMA
BRTS
APERTURE
VOL
JR150
JR151
JR152
JR153
JR154
JR155
JR156
TP 150
TP 151
TP 152
TP 153
TP 154
TP 155
TP 156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16
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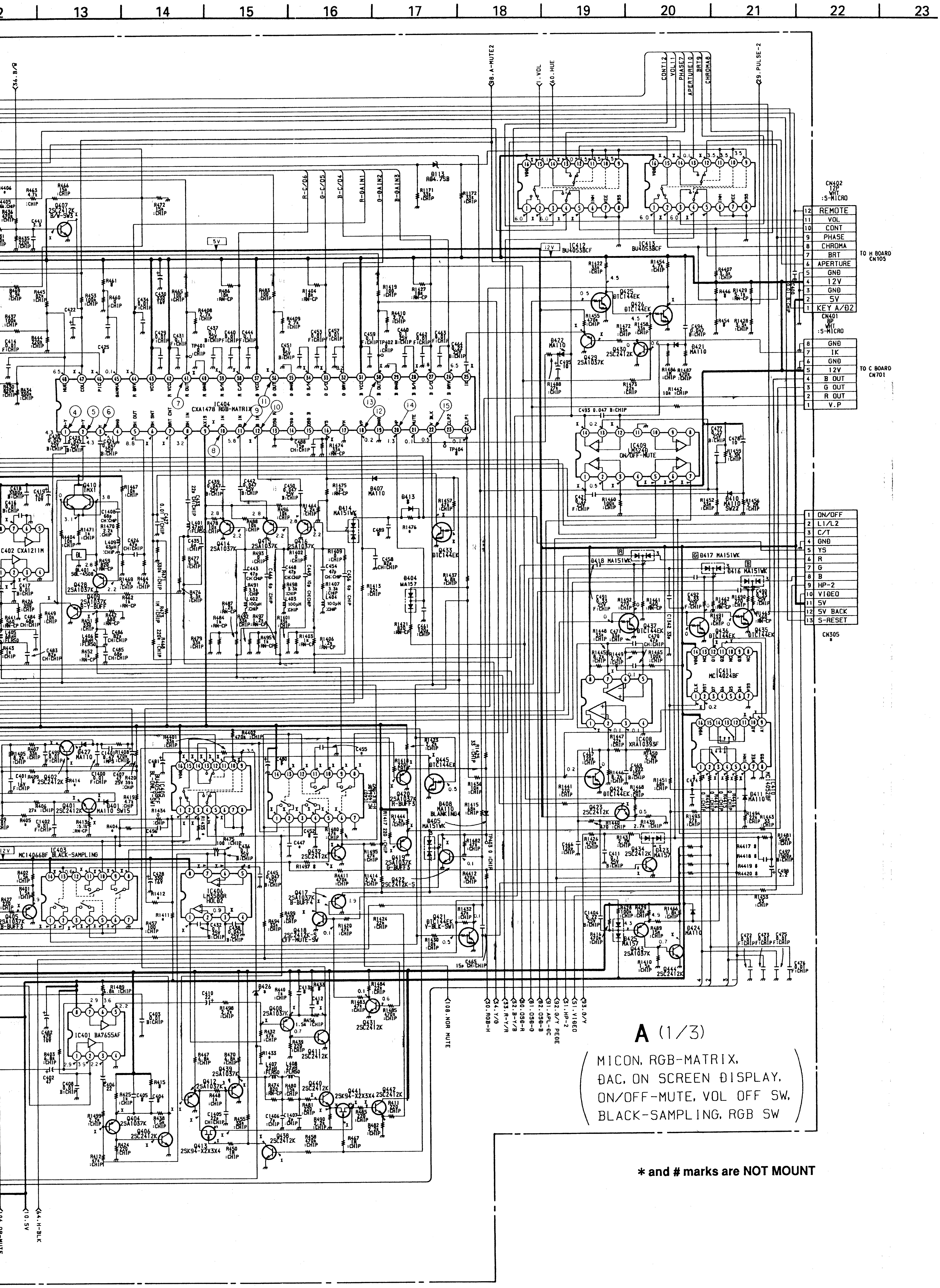
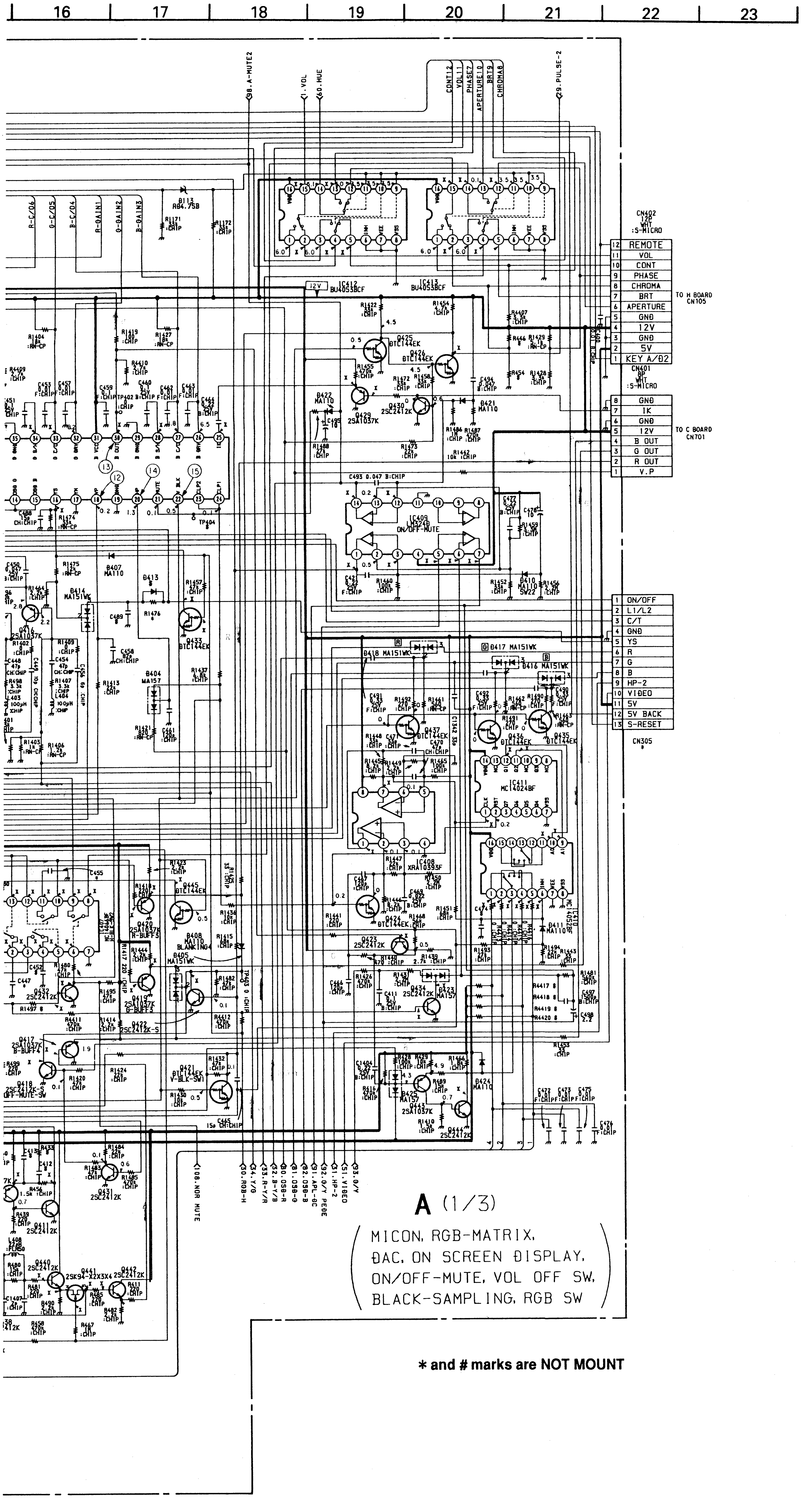
18
19
79.VIDEO V
55.COL KIL
85.SECAM
37.MUTE
107.MICOM-V
71.RGB.COMP
28.EXT SYNC
83.OSD-BLK
16.ABL
3.U/S
19.VP
26.CLP-1
20.V.BLK
7.12V
36.B/W
98.A-MUTE2
1.VOL
60.HUE
12V
5V
IC108 S-80743AL-A7
Q107 DTA144EK
Q109 2SC2412K
Q110 2SC2412K
Q112 2SC2412K
D106 MA157
D108 1S2835
Q104
D415 MA151WK
IC404 CXA1478 RGB-MATRIX
IC402 CXA1211M
Q410 IMX1
Q428 2SA1037K
Q409 2SA1037K
Q414 2SA1037K
Q415 2SA1037K
Q416 2SA1037K
D407 MA110
D414 MA151WK
D404 MA157
Q433 DTC144EK
IC412 BU4053BCF
Q429 2SA1037K
Q430 2SC2412K
D422 MA110
D418 MA151WK
IC107 M62358FP
IC109 M62358FP
PHASE
CHROMA
BRT
APERTURE
VOL
CONT
IC111 MC14094BF
L102 47μH EL0606
L104 220μH FL3N50
D402
Q402 2SC2412K
Q401 2SC2412K
D401 MA110 SW15
D427 MA110
IC403 MC14066BF BLACK-SAMPLING
Q403 DTC144EK V-BLK-SW
Q405 2SA1037K B-BUFF3
IC406 LM358BR
Q417 2SA1037K
Q418 2SC2412K-S
Q420 2SA1037K R-BUFF3
Q445 DTC144EK
D408 MA110 BLANKING4
D405 MA151WK
Q419 2SA1037K
Q421 DTC144EK V-BLK-SW1
Q422 2SC2412K-S
Q432 2SC2412K
Q424 DTC144EK
Q423 2SC2412K
IC401 BA7655AF
Q404 2SA1037K
Q406 2SC2412K
Q108 2SC2412K
Q412 2SA1037K
Q439 2SA1037K
Q413 2SK94-X2X3X4
Q408 2SA1037K
Q411 2SC2412K
Q440 2SC2412K
Q441 2SK94-X2X3X4
Q442 2SC2412K
Q438 2SC2412K
Q431 2SC2412K
108.NOR MUTE
30.RGB-H
34.Y/G
33.R-Y/R
32.B-Y/B
80.OSD-R
81.OSD-G
82.OSD-B
31.APL-OC
92.Y/PEDE
91.HP-2
51.VIGEO
93.G/Y
15.H.BL DAC
58.ACC OFF
50.358
99.7.SUP
97.SHIFT-2
96.SHIFT-1
94.12V-B
14.V.BL DAC
18.H.BLK DAC
18.V.LINE DAC
8.V.SIZE DAC
11.H.FREQ OPE
63.V.HOLD
12.V.BLK DAC
90.V-CENT
13.V.PHASE DAC
59.X TAL OPE
5.AFC DAC
4.PIN DAC
106.OR-MUTE
10.5V
64.H-BLK
MICO
ĐAC,
ON/O
BLAC


12
13
14
15
16
17
18
19
20
21
22
23
IC404 CXA1478 RGB-MATRIX
IC412 BU4053BCF
IC413 BU4053BCF
IC409 LM324D ON/OFF-MUTE
IC411 MC14024BF
IC408 XRA10393F
IC410 MC14052BF
IC402 CXA1211M
IC403 MC14066BF BLACK-SAMPLING
IC406 LM358DR
IC401 BA7655AF
CN402 12P WHT :S-MICRO
REMOTE
VOL
CONT
PHASE
CHROMA
BRT
APERTURE
GND
12V
GND
5V
KEY A/D2
TO H BOARD CN105
CN401 8P WHT :S-MICRO
GND
IK
GND
12V
B OUT
G OUT
R OUT
V.P
TO C BOARD CN701
ON/OFF
L1/L2
C/T
GND
YS
R
G
B
HP-2
VIDEO
5V
5V BACK
S-RESET
CN305
CONT12
VOL11
PHASE7
APERTURE10
BRT9
CHROMA8
29.PULSE-2
98.A-MUTE2
1.VOL
60.HUE
R-C/D6
G-C/D5
B-C/D4
R-GAIN1
G-GAIN2
B-GAIN3
108.NOR MUTE
30.ROB-H
34.Y/O
33.R-Y/R
32.B-Y/B
80.OSD-R
81.OSD-G
82.OSD-B
31.APL-DC
92.G/Y PEDE
51.VIDEO
91.HP-2
93.G/Y
36.B/Y
10.5V
64.H-BLK

A (1/3)

MICON, RGB-MATRIX,
DAC, ON SCREEN DISPLAY,
ON/OFF-MUTE, VOL OFF SW,
BLACK-SAMPLING, RGB SW

*** and # marks are NOT MOUNT**


16
17
18
19
20
21
22
23
98.A-MUTE2
1.VOL
60.HUE
CONT12
VOL11
PHASE7
APERTURE10
BRT9
CHROMA8
29.PULSE-2
IC412 BU4053BCF
IC413 BU4053BCF
CN402 12P WHT :S-MICRO
REMOTE
VOL
CONT
PHASE
CHROMA
BRT
APERTURE
GND
12V
GND
5V
KEY A/D2
TO H BOARD CN105
CN401 8P WHT :S-MICRO
GND
IK
GND
12V
B OUT
G OUT
R OUT
V.P
TO C BOARD CN701
IC409 LA6324D ON/OFF-MUTE
ON/OFF
L1/L2
C/T
GND
YS
R
G
B
HP-2
VIDEO
5V
5V BACK
S-RESET
CN305
IC411 MC14024BF
IC408 XRA10393F
IC410 MC14052BF
108.NOR MUTE
30.RGB-H
34.Y/G
33.R-Y/R
32.B-Y/B
80.OSD-R
81.OSD-G
82.OSD-B
91.APL-DC
92.O/V PEDE
31.HP-2
51.VIDEO
93.O/V

A (1/3)

MICON, RGB-MATRIX,
DAC, ON SCREEN DISPLAY,
ON/OFF-MUTE, VOL OFF SW,
BLACK-SAMPLING, RGB SW

*** and # marks are NOT MOUNT**

A (1/3) BOARD ＊ MARK

	PAL	SECAM	NTSC 3.58	NTSC 4.43	S-VIDEO	ANALO RGB
IC101 ②	2.3	2.4	2.2	2.2	2.0	2.3
③	4.5	4.6	4.5	4.4	4.4	4.5
⑥	4.1	3.4	0	0.1	0	0
⑫	3.4	3.5	3.5	3.5	3.1	3.5
⑲	0	0	0	0	4.8	0
⑳	0	0	0	0	0	4.9
㉒	4.9	5.0	0	0	0	0
㉓	5.0	5.0	0	5.0	0	0
㉔	5.0	5.0	0	0	0	0
㉕	0	5.0	0	0	0	0
㉖	0.1	0	0.1	0.1	4.9	0.1
㉘	5.0	5.0	5.0	5.0	0	5.0
㉙	5.0	5.0	5.0	5.0	4.9	0.1
㉚	5.0	5.0	5.0	5.0	5.0	0.1
㉟	4.2	4.1	4.6	5.0	3.9	3.9
㊱	4.0	4.0	4.6	5.0	3.6	3.7
㊲	0.3	4.4	0.1	0.7	0.1	0.1
(53)	4.2	0.1	4.3	4.2	4.2	4.3
(55)	4.0	3.4	3.6	3.7	3.9	4.0
(56)	0.5	0.9	1.0	0.8	3.1	1.9
(57)	3.0	2.5	2.6	2.3	3.8	2.2
(58)	3.6	3.0	2.9	3.2	3.9	4.0
(62)	4.0	4.0	4.0	4.0	2.9	4.0
IC103 ⑥	0.2	0	0.2	0.2	0	0
IC104 ④	2.3	2.3	2.2	2.2	2.0	2.3
⑲	3.5	3.5	3.5	3.5	3.1	3.5
IC105 ③	2.3	2.3	2.2	2.2	0	2.3
⑤	0	0.1	0.1	0	11.8	0
⑯	2.6	2.7	2.7	2.6	2.8	2.6
⑲	5.4	5.4	5.4	5.4	6.6	8.1
IC106 ③	2.3	2.3	2.2	2.2	2.1	2.3
⑤	5.4	5.4	5.4	5.4	4.1	5.4
⑦	2.4	2.4	2.4	2.4	0.6	2.4
⑧	7.8	7.8	7.8	7.7	5.5	7.8
⑨	5.1	5.1	5.1	5.1	4.0	5.1
⑯	0.1	10.5	10.5	10.5	10.9	10.5
⑰	3.1	3.1	2.6	3.1	2.7	2.5
⑱	2.4	4.6	2.1	2.2	2.1	3.2
⑲	6.3	6.3	11.9	9.0	10.7	3.7
⑳	3.6	3.6	4.8	3.6	4.3	9.5
㉑	0.8	1.8	0.4	0.3	2.4	3.1
IC107 ③	2.3	2.3	2.2	0	2.1	0
④	2.8	2.8	2.8	2.8	3.3	2.8
⑥	1.5	1.4	1.4	1.4	2.3	1.4
⑦	2.9	2.9	2.9	2.9	2.1	2.9
⑧	2.6	2.6	2.6	2.6	2.9	2.6
⑨	2.9	2.9	2.9	2.9	2.6	2.9
⑰	2.6	2.6	2.8	2.8	2.8	2.8
⑲	3.2	3.2	5.4	5.4	5.3	5.4
⑳	4.5	4.6	5.0	5.0	3.7	5.0
㉑	6.3	6.3	6.1	6.1	6.0	6.1
IC109 ③	2.3	2.3	2.2	2.2	2.1.	2.3
⑰	11.9	11.9	11.9	11.9	11.9	0.1
⑱	11.9	11.9	0.1	0	0.1	11.8
IC110 ③	2.3	2.4	2.2	2.2	2.0	2.2
④	7.2	7.2	7.2	7.2	8.3	7.2
⑯	5.8	5.8	5.8	5.8	6.2	5.8
⑰	11.9	11.9	11.9	11.9	7.8	11.9
㉑	0	7.9	7.9	7.9	7.8	7.9
IC111 ②	2.3	2.4	2.2	2.2	2.0	2.2
④	0.3	0.3	0.3	0.3	0	0.3
⑪	0.2	0	0.1	0.1	0.1	0.1
⑫	0	5.0	5.0	5.0	0	5.0
⑬	5.0	5.0	5.0	5.0	0	5.0
IC402 ②	3.1	3.9	2.9	3.0	3.0	3.6
③	0	2.3	2.3	0	2.2	2.2
⑦	2.9	2.9	2.9	0	2.9	2.9
IC403 ①	0.8	0.8	0.8	0.8	0.8	0
②	1.2	1.2	0.8	0.8	1.2	0.9
③	1.4	1.3	0.9	0.9	1.3	0
④	0.8	0.8	0.9	0.9	0.8	1.4
⑤	0.6	0.5	0.6	0.6	0	0.6
⑥	0.5	0.6	0.6	0.6	0.6	0
⑧	1.0	1.0	1.0	1.0	0.8	1.1
⑨	1.6	1.5	1.1	1.1	1.4	1.6
⑩	1.4	1.4	1.0	1.0	1.2	1.5
⑪	0.9	1.0	1.0	1.0	0.8	1.1
⑬	0.6	0.6	0.6	0.6	0	0.6

A (1/3) BOARD

IC101	MICON	Q107	RGB COMP
IC102	ECP ROM	Q108	V SHORT SW
IC103	EX-OR	Q109	BLUE ONLY SW
IC104	ON SCREEN DISPLAY	Q110	MUTE BUFFER
IC105	DAC 1	Q111	HV DC SW
IC106	DAC 2	Q112	MUTE BUFFER
IC107	DAC 4	Q113	DGC SW
IC108	MICON RESET	Q114	V SYNC AMP
IC109	DAC 5	Q401	BRIGHT ABL
IC110	DAC 3	Q402	PICTURE ABL
IC111	EXP-OUT-PROT	Q403	V-BLK-SW
IC401	BLUE-ONLY GAIN-CONT AMP	Q404	B/O G AMP 1
IC402	R-Y GAIN-CONT AMP	Q405	B-BUFF 3
IC403	BLACK-SAMPLING	Q406	B/O G AMP 2
IC404	RGB-MATRIX	Q407	B/W-SW3
IC405	BL-ONLY-SW 1	Q408	B/O R AMP 1
IC406	HOLD 2	Q409	B-Y-BUFF
IC407	H-BLK-SW 2	Q410	Y BUFFER
IC408	EDGE DETECT	Q411	B/O R AMP 2
IC409	ON/OFF-MUTE	Q412	B-CH BUFFER
IC410	SIG SELECT	Q413	B-CH NORMAL S
IC411	COUNTER	Q414	R BUFFER
IC412	VOL OFF SW 4	Q415	G BUFFER
IC413	VOL OFF SW 2	Q416	B BUFFER
		Q417	B-BUFF
		Q418	OFF-MUTE-SW
Q101	V-BLK BUFFER	Q419	G-BUFF 3
Q102	R-Y C/B BUFFER	Q420	R-BUFF-3
Q103	B-Y C/B BUFFER	Q421	V-BLK-SW 1

A (1/3) BOARD * MARK

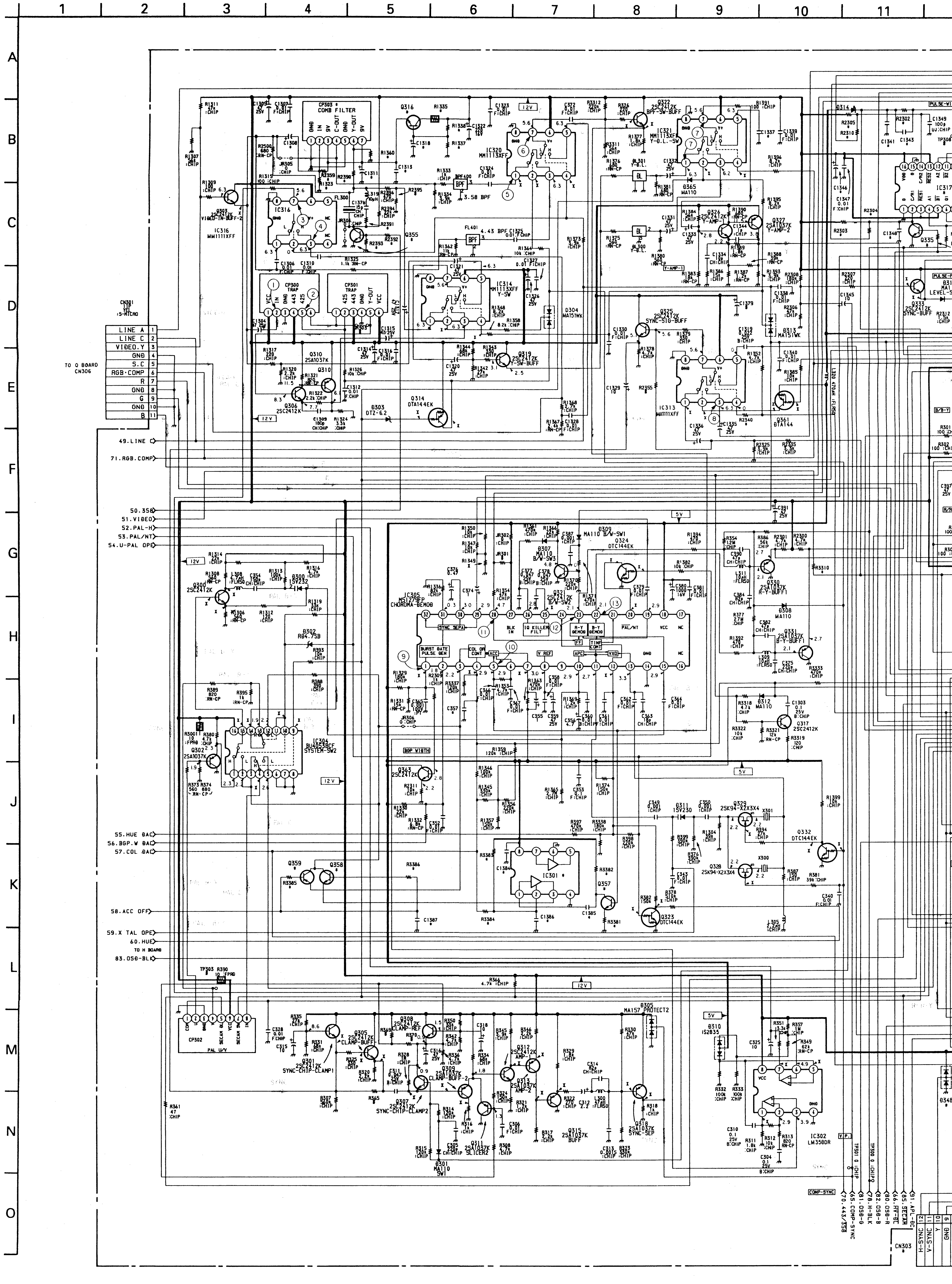
	PAL	SECAM	NTSC 3.58	NTSC 4.43	S-VIDEO	ANALOG RGB
IC101 ②	2.3	2.4	2.2	2.2	2.0	2.3
③	4.5	4.6	4.5	4.4	4.4	4.5
⑥	4.1	3.4	0	0.1	0	0
⑫	3.4	3.5	3.5	3.5	3.1	3.5
⑲	0	0	0	0	4.8	0
⑳	0	0	0	0	0	4.9
㉒	4.9	5.0	0	0	0	0
㉓	5.0	5.0	0	5.0	0	0
㉔	5.0	5.0	0	0	0	0
㉕	0	5.0	0	0	0	0
㉖	0.1	0	0.1	0.1	4.9	0.1
㉘	5.0	5.0	5.0	5.0	0	5.0
㉙	5.0	5.0	5.0	5.0	4.9	0.1
㉚	5.0	5.0	5.0	5.0	5.0	0.1
㉟	4.2	4.1	4.6	5.0	3.9	3.9
㊱	4.0	4.0	4.6	5.0	3.6	3.7
㊲	0.3	4.4	0.1	0.7	0.1	0.1
(53)	4.2	0.1	4.3	4.2	4.2	4.3
(55)	4.0	3.4	3.6	3.7	3.9	4.0
(56)	0.5	0.9	1.0	0.8	3.1	1.9
(57)	3.0	2.5	2.6	2.3	3.8	2.2
(58)	3.6	3.0	2.9	3.2	3.9	4.0
(62)	4.0	4.0	4.0	4.0	2.9	4.0
IC103 ⑧	0.2	0	0.2	0.2	0	0
IC104 ④	2.3	2.3	2.2	2.2	2.0	2.3
⑲	3.5	3.5	3.5	3.5	3.1	3.5
IC105 ③	2.3	2.3	2.2	2.2	0	2.3
⑤	0	0.1	0.1	0	11.8	0
⑯	2.6	2.7	2.7	2.6	2.8	2.6
⑲	5.4	5.4	5.4	5.4	6.6	8.1
IC106 ③	2.3	2.3	2.2	2.2	2.1	2.3
⑤	5.4	5.4	5.4	5.4	4.1	5.4
⑦	2.4	2.4	2.4	2.4	0.6	2.4
⑧	7.8	7.8	7.8	7.7	5.5	7.8
⑨	5.1	5.1	5.1	5.1	4.0	5.1
⑯	0.1	10.5	10.5	10.5	10.9	10.5
⑰	3.1	3.1	2.6	3.1	2.7	2.5
⑱	2.4	4.6	2.1	2.2	2.1	3.2
⑲	6.3	6.3	11.9	9.0	10.7	3.7
⑳	3.6	3.6	4.8	3.6	4.3	9.5
㉑	0.8	1.8	0.4	0.3	2.4	3.1
IC107 ③	2.3	2.3	2.2	0	2.1	0
④	2.8	2.8	2.8	2.8	3.3	2.8
⑥	1.5	1.4	1.4	1.4	2.3	1.4
⑦	2.9	2.9	2.9	2.9	2.1	2.9
⑧	2.6	2.6	2.6	2.6	2.9	2.6
⑨	2.9	2.9	2.9	2.9	2.6	2.9
⑰	2.6	2.6	2.8	2.8	2.8	2.8
⑲	3.2	3.2	5.4	5.4	5.3	5.4
⑳	4.5	4.6	5.0	5.0	3.7	5.0
㉑	6.3	6.3	6.1	6.1	6.0	6.1
IC109 ③	2.3	2.3	2.2	2.2	2.1	2.3
⑰	11.9	11.9	11.9	11.9	11.9	0.1
⑱	11.9	11.9	0.1	0	0.1	11.8
IC110 ③	2.3	2.4	2.2	2.2	2.0	2.2
④	7.2	7.2	7.2	7.2	8.3	7.2
⑯	5.8	5.8	5.8	5.8	6.2	5.8
⑰	11.9	11.9	11.9	11.9	7.8	11.9
㉑	0	7.9	7.9	7.9	7.8	7.9
IC111 ②	2.3	2.4	2.2	2.2	2.0	2.2
④	0.3	0.3	0.3	0.3	0	0.3
⑪	0.2	0	0.1	0.1	0.1	0.1
⑫	0	5.0	5.0	5.0	0	5.0
⑬	5.0	5.0	5.0	5.0	0	5.0
IC402 ②	3.1	3.9	2.9	3.0	3.0	3.6
③	0	2.3	2.3	0	2.2	2.2
⑦	2.9	2.9	2.9	0	2.9	2.9
IC403 ①	0.8	0.8	0.8	0.8	0.8	0
②	1.2	1.2	0.8	0.8	1.2	0.9
③	1.4	1.3	0.9	0.9	1.3	0
④	0.8	0.8	0.9	0.9	0.8	1.4
⑤	0.6	0.5	0.6	0.6	0	0.6
⑥	0.5	0.6	0.6	0.6	0.6	0
⑧	1.0	1.0	1.0	1.0	0.8	1.1
⑨	1.6	1.5	1.1	1.1	1.4	1.6
⑩	1.4	1.4	1.0	1.0	1.2	1.5
⑪	0.9	1.0	1.0	1.0	0.8	1.1
⑬	0.6	0.6	0.6	0.6	0	0.6
IC404 ⑥	3.0	3.0	3.0	3.0	4.5	0
⑦	4.9	4.9	4.9	4.9	4.7	6.1
⑩	5.6	5.6	5.6	5.6	5.6	5.8
⑫	5.6	5.6	5.6	5.6	5.6	5.8
⑯	0	0.1	0	0	0	4.4
㉕	3.8	4.0	4.1	4.2	4.0	3.6
㉘	7.1	6.6	8.0	8.0	7.7	7.9
㉚	1.4	1.3	1.2	1.1	1.2	1.4
㉞	7.0	7.3	8.1	7.8	7.8	7.8
㊱	1.4	1.3	1.2	1.1	1.2	1.5
㊳	7.8	7.8	7.7	7.8	8.0	7.7
㊴	6.9	7.1	7.8	7.7	7.6	7.6
㊶	1.2	1.2	1.0	1.0	1.2	1.3
㊹	7.2	7.2	7.2	7.2	8.3	7.2
㊻	7.2	7.2	7.2	7.2	6.9	7.0
㊼	6.6	6.6	6.6	6.6	5.5	0
IC405 ①	1.6	1.5	1.1	1.3	1.4	1.6
②	1.4	1.4	0.9	0	1.2	1.5
③	1.2	1.2	0.9	0	1.1	1.2
④	1.4	1.3	1.0	0	1.2	1.4
⑤	1.3	1.3	1.0	0	1.2	1.4
⑩	0.5	0.5	0.6	1.0	0.3	0.2
⑪	0.5	0.5	0.6	1.3	0.3	0.2
⑫	1.2	1.2	0.8	1.1	1.2	1.3
⑬	1.4	1.3	0.9	1.3	1.3	1.4
⑭	1.2	1.2	0.8	1.2	1.2	1.3
⑮	1.4	1.3	1.0	1.3	1.2	1.5
IC406 ①	4.8	5.1	4.8	4.8	4.8	5.1
③	0.8	0	0.9	0.9	0.8	1.0
⑤	1.0	0.9	1.0	1.0	0.8	1.1
⑥	1.0	1.0	1.1	1.1	0.8	1.1
⑦	5.1	5.1	4.9	4.9	4.9	5.1
IC407 ①	1.2	1.2	0.9	1.2	1.2	1.3
②	0.4	−0.1	0.5	0.3	0.4	0.5
③	1.4	1.3	1.0	1.3	1.2	1.4
④	0.6	0	0.7	0.5	0.5	0.7
⑤	2.0	1.8	2.0	2.0	2.0	2.0
⑥	11.7	10.7	11.6	11.3	11.7	11.2
⑧	5.5	5.5	5.5	5.5	5.4	8.5
⑨	5.5	5.5	5.5	5.5	5.4	8.4
⑩	1.4	1.4	1.0	1.3	1.2	1.5
⑪	0.6	−0.1	0.7	0.6	0.5	0.6
⑫	2.0	1.7	2.0	2.0	2.0	2.0
⑬	2.0	1.7	2.0	2.0	2.0	2.0
IC408 ①	3.1	2.9	2.9	3.1	3.7	3.4
⑦	4.1	3.8	3.9	4.1	4.2	4.1
IC409 ①	0	8.8	9.0	9.4	0	7.5
③	0	0.6	0.4	0.3	0.3	1.6
⑤	5.9	5.9	6.3	0	5.9	5.9
⑥	5.9	5.9	6.3	6.0	5.9	5.9
⑦	5.9	5.9	6.3	6.0	5.9	5.9
⑫	0.1	1.8	0.5	1.2	0.1	0
⑭	0	10.7	6.6	6.9	0	10.7
IC410 ①	3.8	4.0	4.0	4.0	0	3.9
②	3.0	3.1	2.4	3.1	0	4.0
③	1.3	0.7	1.4	1.6	2.3	1.5
④	3.5	3.6	3.0	3.8	3.9	3.9
⑤	0.6	1.3	1.1	1.1	3.1	1.7
⑥	4.0	4.0	4.0	3.9	0	0
⑨	0	2.0	1.9	1.8	2.5	1.4
⑩	2.0	2.3	2.3	2.0	1.8	3.0
IC411 ①	4.1	4.0	3.9	3.8	4.2	4.1
⑪	1.8	2.0	1.9	1.8	2.5	1.3
⑫	2.0	2.3	2.3	2.1	1.8	3.0
IC412 ②	0.4	0.5	0.4	0.4	5.9	0.6
④	8.9	8.9	8.9	8.9	8.9	8.3
⑤	9.0	8.9	9.0	8.9	8.9	8.3
⑬	6.0	6.0	6.0	6.0	6.0	0
⑮	0.4	0.5	0.4	0.4	5.9	0.5
IC413 ②	7.9	8.0	8.0	8.0	0	6.9
④	0	5.5	5.5	5.5	5.4	0
⑤	5.5	5.5	5.5	5.5	5.4	8.6
⑫	3.1	3.1	3.1	3.1	0	5.1
⑭	3.1	3.1	3.1	3.1	6.0	5.1
⑮	7.9	7.9	8.0	7.9	6.3	6.9
Q102 B	10.9	10.9	10.9	10.9	10.7	10.9
C	8.1	8.1	8.1	8.1	0	8.1
E	11.5	11.5	11.5	11.5	11.3	11.5
Q107 B	5.0	5.0	5.0	5.0	5.0	0.1
C	0	0	0	0	0	5.0
Q108 C	2.6	2.6	2.6	2.6	2.9	2.6
E	2.6	2.6	2.6	2.6	2.9	2.6
Q111 B	5.0	5.0	0	0	4.9	4.9
C	0.4	0.4	0	0	0.4	0.4
Q113 C	4.1	4.3	4.2	4.2	3.8	4.0
Q401 B	1.1	0.8	1.5	1.6	1.2	1.0
C	7.5	5.5	6.0	5.2	8.4	10.0
E	1.4	1.6	3.2	3.4	3.1	1.0
Q402 B	0.5	0.5	0.5	0.5	2.4	0.5
C	9.5	7.7	8.1	7.4	10.4	6.9
E	1.4	1.6	3.2	3.3	3.2	1.0
Q404 B	5.3	4.1	4.9	5.2	5.3	5.2
E	6.1	6.3	6.0	6.1	6.1	6.2
Q405 B	1.3	1.3	1.2	1.1	1.2	1.4
Q406 B	0.7	0.7	0	0.7	0.7	0.7
C	1.6	1.5	1.0	1.5	1.4	1.6
Q407 B	0	0	0	0	0	0.6
C	6.6	6.6	6.6	6.6	5.4	0
Q408 B	5.3	4.7	4.9	5.0	5.2	5.2
E	6.0	6.2	5.9	6.1	6.0	6.1
Q409 B	1.9	1.6	1.6	1.6	1.7	1.6
E	2.0	2.2	2.2	2.2	2.3	2.2
Q411 C	1.4	1.4	0.9	1.3	1.3	1.4
Q412 B	1.3	1.3	1.0	1.3	1.1	1.4
E	2.0	1.9	1.7	1.9	1.8	2.0
Q413 G	2.0	−15.1	1.6	−2.2	1.8	−2.1
D	2.0	1.9	−4.3	0	2.2	2.0
S	2.0	1.9	1.7	1.9	1.8	2.0
Q417 B	1.4	1.4	1.2	1.2	1.2	1.4
Q418 C	2.1	2.1	1.7	1.7	1.7	2.0
Q419 B	1.4	1.4	1.2	1.1	1.2	1.5
E	2.0	1.9	1.7	1.7	1.8	2.0
Q420 B	1.2	1.2	1.0	1.0	1.2	1.3
E	1.8	1.8	1.6	1.6	1.8	1.9
Q422 C	2.1	2.1	1.7	1.7	1.8	2.0
Q423 B	0.5	0.3	0.4	0.4	0.4	0.2
Q426 C	0.8	0.8	0.7	0.7	0.7	0
Q429 B	0.1	0.8	0.4	0.4	0.1	0.1
E	0	−2.3	−1.2	−2.1	0.4	0.4
Q432 B	−0.3	−3.8	−3.4	−2.7	−0.1	−3.9
C	11.9	11.6	11.8	11.8	12.0	11.6
Q433 B	0	−0.1	0	0	0	2.7
C	3.0	3.0	3.0	3.0	4.5	0
Q434 B	−0.1	0	0	0	−0.1	0.4
C	3.6	4.7	4.5	4.8	2.9	0
Q438 B	−0.4	−2.9	−3.1	−2.4	0	−2.4
C	11.7	11.4	11.7	11.7	11.6	11.7
Q439 B	2.0	1.9	1.8	1.7	1.8	2.0
E	2.6	2.5	2.4	2.4	0	2.6
Q440 B	2.6	2.5	2.5	2.5	2.4	2.7
Q441 G	−1.1	−13.0	1.7	−4.8	0	−0.7
D	2.0	1.9	−8.1	1.9	1.8	2.0
S	2.0	1.9	1.6	1.9	1.8	2.0
Q442 B	1.3	1.3	1.1	1.1	1.1	2.1
E	0.9	0.9	0.7	0.7	0.7	1.5
Q444 C	1.2	1.1	1.2	1.4	2.2	1.3
Q445 C	0.4	1.2	1.4	1.3	0.3	0.4

A (1/3) BOARD

IC101	MICON	Q107	RGB COMP	Q422	BLANKING	D104	PROTECT
IC102	ECP ROM	Q108	V SHORT SW	Q423	BLUE BUFFER	D105	PROTECT
IC103	EX-OR	Q109	BLUE ONLY SW	Q424	BLK	D106	PROTECT
IC104	ON SCREEN DISPLAY	Q110	MUTE BUFFER	Q425	V-P BUFFER 1	D107	PROTECT
IC105	DAC 1	Q111	HV DC SW	Q426	V-P BUFFER 2	D108	MUTE
IC106	DAC 2	Q112	MUTE BUFFER	Q428	SHARPNESS BUFFER	D109	MUTE
IC107	DAC 4	Q113	DGC SW	Q429	IK BUFFER	D111	PROTECT
IC108	MICON RESET	Q114	V SYNC AMP	Q430	IK BLK	D113	D. C. SHIFT
IC109	DAC 5	Q401	BRIGHT ABL	Q431	RESET MUTE SW	D115	PROTECT
IC110	DAC 3	Q402	PICTURE ABL	Q432	BRIGHT MUTE SW	D335	SW
IC111	EXP-OUT-PROT	Q403	V-BLK-SW	Q433	RGB SW	D401	SW
IC401	BLUE-ONLY GAIN-CONT AMP	Q404	B/O G AMP 1	Q434	MUTE RGB SW	D404	SW
IC402	R-Y GAIN-CONT AMP	Q405	B-BUFF 3	Q435	OSD DOWN SW	D405	BLANKING
IC403	BLACK-SAMPLING	Q406	B/O G AMP 2	Q436	OSD DOWN SW	D406	SW SLICE
IC404	RGB-MATRIX	Q407	B/W-SW3	Q437	OSD DOWN SW	D407	RGB SW
IC405	BL-ONLY-SW 1	Q408	B/O R AMP 1	Q438	BLUE ONLY SW	D408	BLANKING
IC406	HOLD 2	Q409	B-Y-BUFF	Q439	B-CH B/O DLY-EQ 1	D410	SW
IC407	H-BLK-SW 2	Q410	Y BUFFER	Q440	B-CH B/O DLY-EQ 2	D411	SW
IC408	EDGE DETECT	Q411	B/O R AMP 2	Q441	B-CH B/O SW	D414	OSD MODE SW
IC409	ON/OFF-MUTE	Q412	B-CH BUFFER	Q442	B-CH BUFFER	D415	OSD BLK-INSERT
IC410	SIG SELECT	Q413	B-CH NORMAL SW	Q443	AUTO CMROMA SET UP AMP 1	D416	OSD B MIX
IC411	COUNTER	Q414	R BUFFER	Q444	AUTO CMROMA SET UP AMP 2	D417	OSD G MIX
IC412	VOL OFF SW 4	Q415	G BUFFER	Q445	BLUE ONLY SW	D418	OSD R MIX
IC413	VOL OFF SW 2	Q416	B BUFFER			D421	SW
		Q417	B-BUFF			D422	SW
		Q418	OFF-MUTE-SW	D100	MUTE SW	D423	CLAMP
Q101	V-BLK BUFFER	Q419	G-BUFF 3	D101	PROTECT	D424	PROTECT
Q102	R-Y C/B BUFFER	Q420	R-BUFF-3	D102	PROTECT	D425	CLAMP
Q103	B-Y C/B BUFFER	Q421	V-BLK-SW 1	D103	OSC POSITION ADJ	D427	PROTECT

Schematic diagram
← A (1/3) board

Schematic diagram
A (2/3) board →

1
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K
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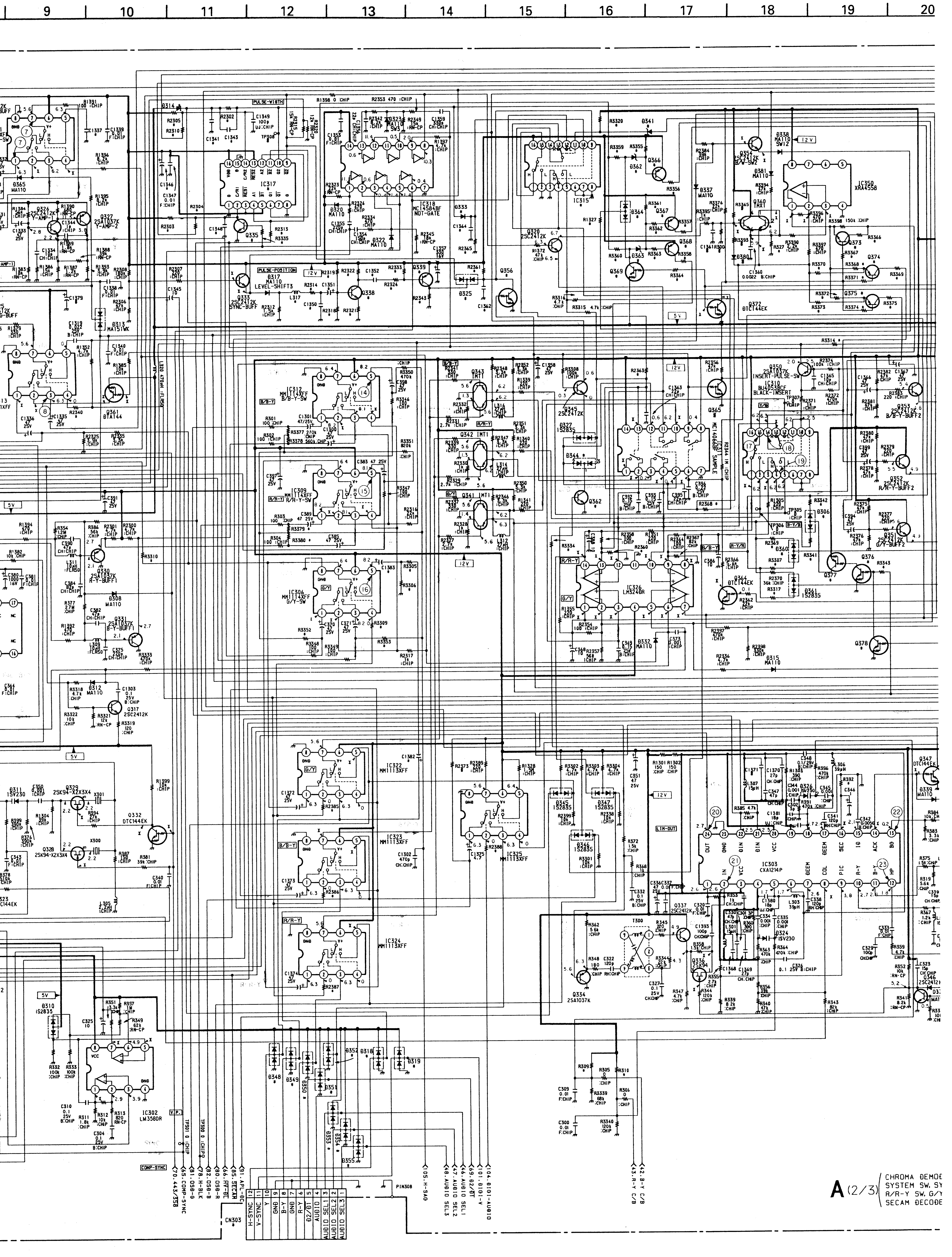
O
CP303 COMB FILTER
IC316 MM1111XFF
IC320 MM1113XFF
IC321 MM1113XFF Y-D.L.-SW
IC314 MM1113XFF Y-SW
IC313 MM1111XFF
IC305 M51279SP CHROMA-DEMOD
IC304 BU4053BCF SYSTEM-SW2
IC301
IC302 LM358DR
CP300 TRAP
CP301 TRAP
CP302 PAL U/V
FL300
FL401 4.43 BPF
BPF400 3.58 BPF
Q303 2SC2412K VIDEO-IN-BUFF-2
Q316
Q322 2SC2412K BPF-SW-BUFF
Q326 2SC2412K Y-AMP-1
Q327 2SA1037K Y-AMP-2
Q325 2SC2412K SYNC-SIG-BUFF
Q319 2SC2412K Y-SW-BUFF
Q310 2SA1037K
Q306 2SC2412K
Q314 DTA144EK
Q361 DTA144
Q300 2SC2412K
Q302 2SA1037K
Q324 DTC144EK
Q330 2SA1037K R-Y-BUFF1
Q331 2SA1037K B-Y-BUFF1
Q317 2SC2412K
Q363 2SC2412K
Q329 2SK94-X2X3X4
Q328 2SK94-X2X3X4
Q332 DTC144EK
Q323 DTC144EK
Q357
Q359
Q358
Q301 2SC2412K SYNC-CHIP-CLAMP1
Q305 2SC2412K CLAMP-BUFF
Q308 2SC2412K CLAMP-REF
Q309 2SA1037K CLAMP-BUFF-2
Q307 2SC2412K SYNC-CHIP-CLAMP2
Q311 2SA1037K SLICER2
Q312 2SC2412K AMP-1
Q313 2SA1037K AMP-2
Q315 2SA1037K BUFF
Q318 2SA1037K SYNC-SEP
Q333 2SC2412K SYNC-BUFF
Q335
D365 MA110
D304 MA151WK
D313 MA151WK
D303 DTZ-6.2
D302 RD4.7SB
D307 MA110 B/W-SW3
D309 MA110 B/W-SW1
D308 MA110
D312 MA110
D305 MA157 PROTECT2
D310 1S2835
D301 MA110 SW1
D311 1SV230
D300 1SV232
X301
X300
L320 470μH:FLR50
CN301 11P YEL :S-MICRO
LINE A
LINE C
VIDEO.Y
GND
S.C
RGB-COMP
R
GND
G
GND
B
TO Q BOARD CN306
49.LINE C
71.RGB.COMP
50.358
51.VIDEO
52.PAL-H
53.PAL/NT
54.U-PAL OPE
55.HUE DAC
56.BGP.W DAC
57.COL DAC
58.ACC OFF
59.X TAL OPE
60.HUE
TO H BOARD
83.058-BLK
70.443/358
65.COMP-SYNC
81.058-G
78.H-BLK
82.058-R
80.058-B
86.RF-DC
85.SECAM
91.APL-DC
CN303
H-SYNC
V-SYNC
GND
12V
5V
SYNC SEPA
BURST GATE PULSE GEN
COL OR CONT
ACC
V REF
APC
VXO
BLK IN
ID KILLER FILT
R-Y DEMOD
B-Y DEMOD
PAL/NT
BGP WIDTH
COMP-SYNC
PULSE-W
TP303
TP301 0 :CHIP
TP300 0 :CHIP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PULSE-WIDTH
IC317
IC318 MC14584BF NOT-GATE
IC315
IC350 XRA4558
PULSE-POSITION
Q317 MA110 LEVEL-SHIFT3
Q333 2SC2412K SYNC-BUFF
Q326 2SC2412K Y-AMP-1
Q327 2SA1037K Y-AMP-2
Q361 DTA144
Q372 DTC144EK
Q338 MA110 SW12
Q354 2SC2412K B/Y-SW2
Q360 TRX1
IC312 MM1114XFF B/B-Y-SW
IC309 MM1114XFF R/R-Y-SW
IC306 MM1114XFF G/Y-SW
Q343 IMT1
Q342 IMT1
Q341 IMT1
Q345 2SC2412K
IC316 MC14066BF SAMPLE
Q350 2SA1037K INSERT-PULSE-SW
IC310 BU4053BCF BLACK-INSERT
Q352 2SC2412K R/R-Y-BUFF2
Q353 2SC2412K B/B-Y-BUFF2
Q351 2SC2412K G/Y-BUFF2
IC326 LM324DR
Q344 DTC144EK
Q330 2SA1037K R-Y-BUFF1
Q331 2SA1037K B-Y-BUFF1
Q317 2SC2412K
Q329 2SK94-X2X3X4
Q328 2SK94-X2X3X4
Q332 DTC144EK
IC322 MM1113XFF
IC323 MM1113XFF
IC324 MM1113XFF
IC325 MM1113XFF
IC303 CXA1214P
Q337 2SC2412K
Q334 2SA1037K
Q336 2SK94
Q324 1SV230
Q347 DTC144EK
IC302 LM358DR
V.P.
COMP-SYNC
TP301 0 :CHIP
TP300 0 :CHIP
70. 443/358
65. COMP-SYNC
81. OSD-G
78. H-BLK
82. OSD-B
80. OSD-R
66. HV-DL
85. SECAM
91. APL-DC
105. H-SAG
48. AUDIO SEL3
47. AUDIO SEL2
46. AUDIO SEL1
69. D2/DT
101. DIGI-V
104. DIGI-AUDIO
43. R-Y C/B
42. B-Y C/B
CN303
H-SYNC
V-SYNC
Y
GND
B-Y
GND
R-Y
D2/D1
AUDIO
AUDIO SEL1
AUDIO SEL2
AUDIO SEL3
PIN308
A (2/3)
CHROMA DEMOE
SYSTEM SW, SY
R/R-Y SW, G/Y
SECAM DECODE

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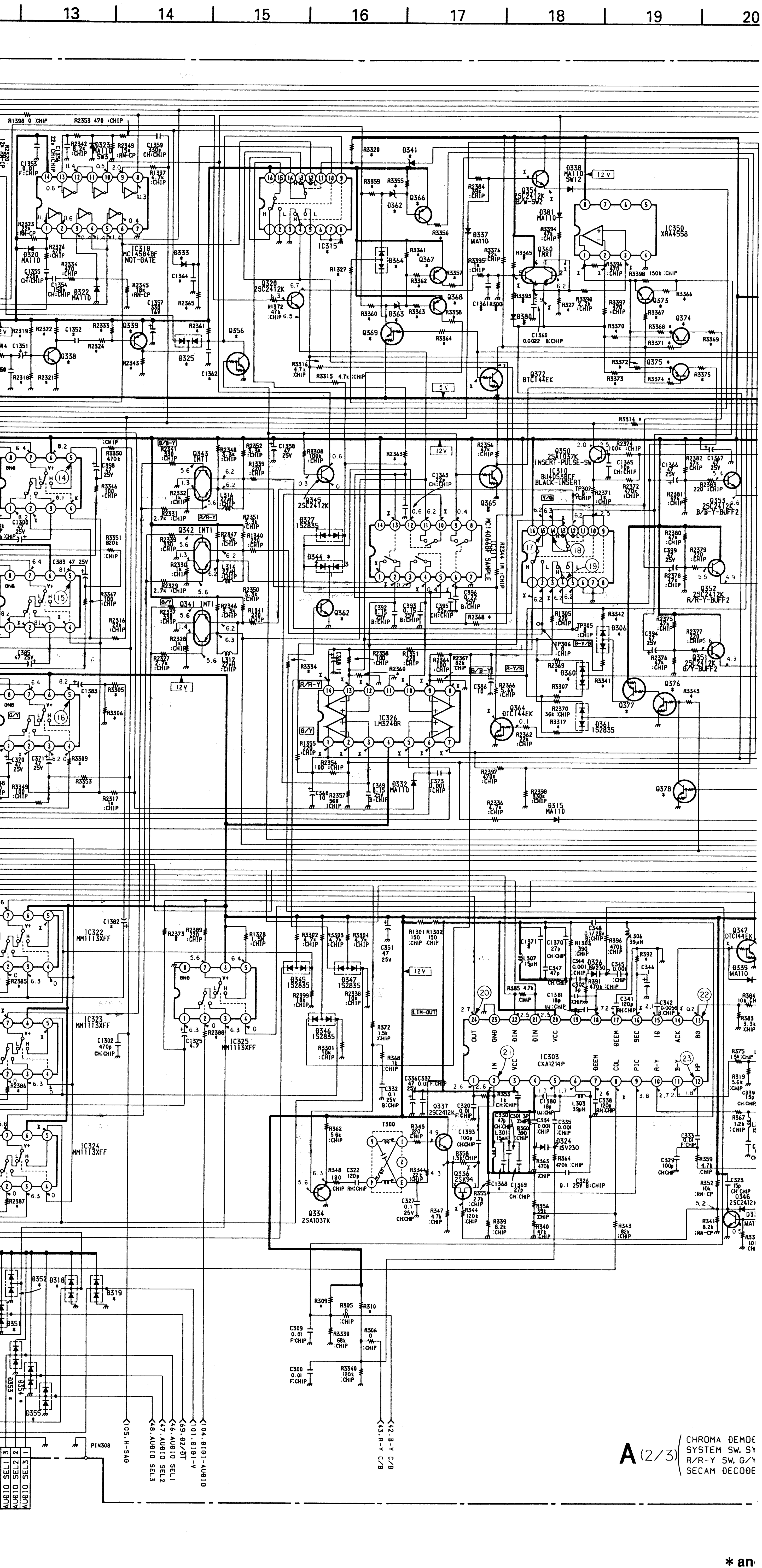
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IC318 MC14584BF NOT-GATE
IC315
IC350 XRA4558
Q354 2SC2412K B/W-SW2
Q338 MA110 SW12
Q340 TMX1
Q372 DTC144EK
Q320 2SC2412K
Q350 2SA1037K INSERT-PULSE-SW
IC310 BU4053BCF BLACK-INSERT
Q353 2SC2412K B/B-Y-BUFF2
Q352 2SC2412K R/R-Y-BUFF2
Q351 2SC2412K G/Y-BUFF2
IC326 LM324DR
Q364 DTC144EK
MC14066BF
Q345 2SC2412K
Q343 TMT1
Q342 TMT1
Q341 TMT1
12V
5V
IC322 MM1113XFF
IC323 MM1113XFF
IC324 MM1113XFF
IC325 MM1113XFF
IC303 CXA1214P
OUT
GND
DIN
VCC
DEEM
SEC
ID
ACK
BO
IN
COL
PIC
R-Y
B-Y
HP
Q347 DTC144EK
Q337 2SC2412K
Q336 2SK94
Q334 2SA1037K
T300
Q346 2SC2412K
Q324 1SV230
Q345 1S2835
Q347 1S2835
Q346 1S2835
LIM-OUT
PIN308
AUDIO SEL1
AUDIO SEL2
AUDIO SEL3
105.H-SAO
48.AUDIO SEL3
47.AUDIO SEL2
46.AUDIO SEL1
69.02/BT
101.B101-V
104.B101-AUDIO
42.B-Y C/B
43.R-Y C/B

A (2/3)
CHROMA DEMOD
SYSTEM SW. SY
R/R-Y SW. G/Y
SECAM DECODE

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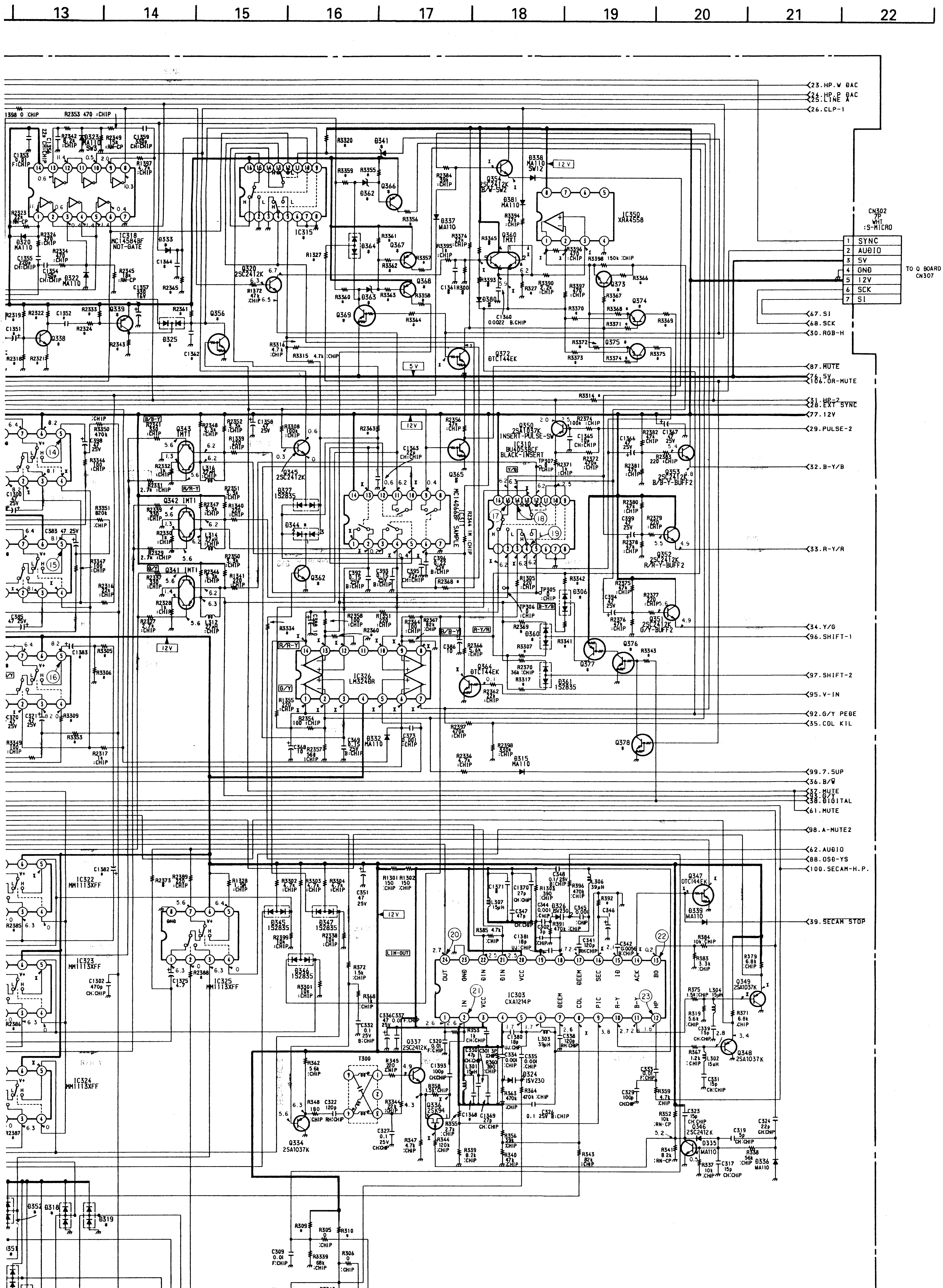
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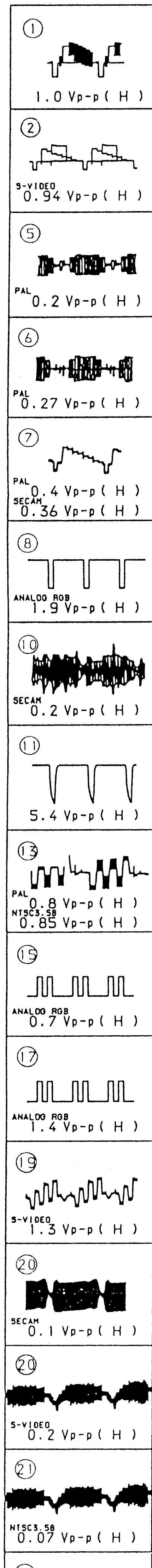
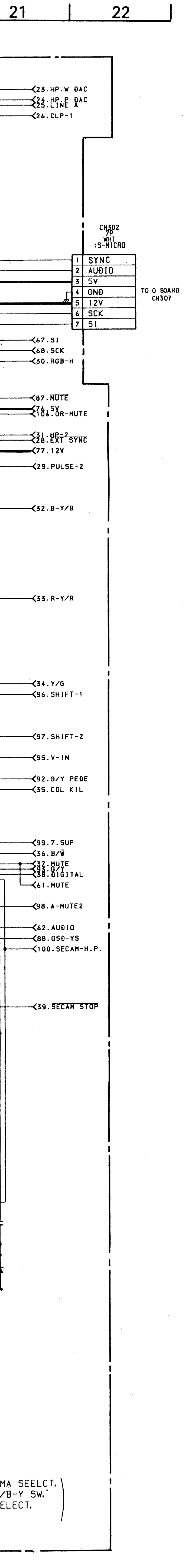
23.HP.W BAC
24.HP.P BAC
25.LINE A
26.CLP-1
CN302 7P WHT :S-MICRO
SYNC
AUDIO
5V
GND
12V
SCK
SI
TO Q BOARD CN307
67.SI
68.SCK
30.RGB-H
87.MUTE
76.5V
106.DR-MUTE
31.HP-2
28.EXT SYNC
77.12V
29.PULSE-2
32.B-Y/B
33.R-Y/R
34.Y/G
96.SHIFT-1
97.SHIFT-2
95.V-IN
92.G/Y PEBE
35.COL KIL
99.7.SUP
36.B/W
52.MUTE
57.SYNC
58.DIGITAL
61.MUTE
98.A-MUTE2
62.AUDIO
88.OSD-YS
100.SECAM-H.P.
39.SECAM STOP
IC318 MC14584BF NOT-GATE
IC315
IC350 XRA4558
IC310 BU4053BCF BLACK-INSERT
IC326 LM324BR
MC14066BF SAMPLE
IC303 CXA1214P
IC322 MM1113XFF
IC323 MM1113XFF
IC324 MM1113XFF
IC325 MM1113XFF
T300
LIM-OUT
105.H-SAG
48.AUDIO SEL3
47.AUDIO SEL2
46.AUDIO SEL1
69.D2/BT
101.D101-V
104.D101-AUDIO
43.R-Y C/B
42.B-Y C/B
PIN308
AUDIO SEL2
AUDIO SEL3

A(2/3) (CHROMA DEMOD. SECAM CHROMA SEELCT. SYSTEM SW. SYNC SELECT. B/B-Y SW. R/R-Y SW. G/Y SW. AUDIO SELECT. SECAM DECODER. HOLD AMP.)

A (2/3) BOARD WA


①
1.0 Vp-p (H)
②
S-VIDEO
0.94 Vp-p (H)
⑤
PAL
0.2 Vp-p (H)
⑥
PAL
0.27 Vp-p (H)
⑦
PAL
0.4 Vp-p (H)
SECAM
0.36 Vp-p (H)
⑧
ANALOG RGB
1.9 Vp-p (H)
⑩
SECAM
0.2 Vp-p (H)
⑪
5.4 Vp-p (H)
⑬
PAL
0.8 Vp-p (H)
NTSC3.58
0.85 Vp-p (H)
⑮
ANALOG RGB
0.7 Vp-p (H)
⑰
ANALOG RGB
1.4 Vp-p (H)
⑲
S-VIDEO
1.3 Vp-p (H)
⑳
SECAM
0.1 Vp-p (H)
⑳
S-VIDEO
0.2 Vp-p (H)
㉑
NTSC3.58
0.07 Vp-p (H)
㉒
3.0 Vp-p (H)

*** and # marks are NOT MOUNT**


21
22
<23.HP.W DAC
<24.HP.P DAC
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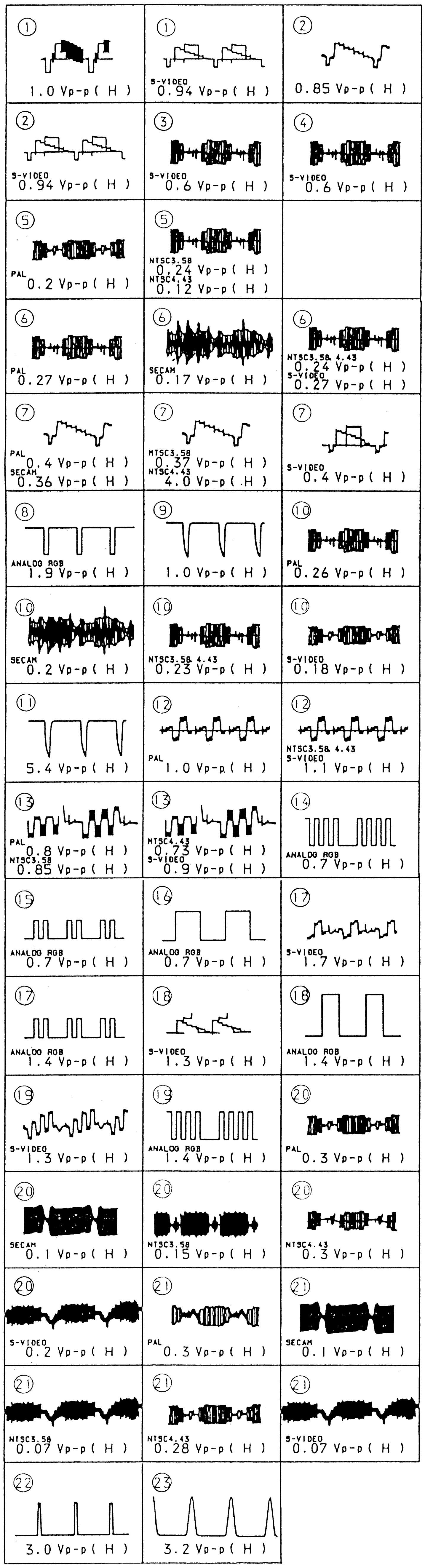
<26.CLP-1
CN302
7P
WHT
:S-MICRO
1 SYNC
2 AUDIO
3 5V
4 GND
5 12V
6 SCK
7 SI
TO Q BOARD
CN307
<67.SI
<68.SCK
<30.RGB-H
<87.MUTE
<76.5V
<106.OR-MUTE
<31.HP-2
<28.EXT SYNC
<77.12V
<29.PULSE-2
<32.B-Y/B
<33.R-Y/R
<34.Y/G
<96.SHIFT-1
<97.SHIFT-2
<95.V-IN
<92.G/Y PEDE
<35.COL KIL
<99.7.5UP
<36.B/W
<37.MUTE
<93.G/Y
<38.DIGITAL
<61.MUTE
<98.A-MUTE2
<62.AUDIO
<88.OSD-YS
<100.SECAM-H.P.
<39.SECAM STOP
MA SEELCT.
/B-Y SW.
ELECT.

A (2/3) BOARD WAVEFORMS



A (2/3) BOARD ✱ MARK

	PAL	SECAM	NTSC 3.58	NTSC 4.43	S-VIDEO	ANALOG RGB
IC302 ①	2.9	2.9	2.9	0.3	2.9	2.9
⑤	5.3	5.1	4.5	4.5	4.5	4.5
⑦	10.5	8.4	0	0	0	0
IC303 ⑧	2.3	2.6	2.2	2.2	2.6	2.8
⑭	0.1	4.2	0.6	0.6	0.6	0.1
⑯	3.9	2.8	3.1	3.1	3.3	3.9
IC304 ④	2.2	2.6	2.2	2.2	2.2	2.2
⑨	9.4	0.1	9.4	9.4	9.4	9.4
⑩	7.3	7.3	2.5	2.5	2.6	2.5
⑪	7.3	7.3	2.5	2.6	2.6	2.5
⑭	1.9	1.9	2.2	2.2	2.2	2.2
⑮	2.5	2.5	2.2	2.2	2.3	2.2
IC305 ①	2.8	2.8	2.8	0	2.8	2.8
④	2.5	1.1	2.5	2.4	2.4	1.3
⑦	4.1	4.1	4.1	4.1	4.2	4.5
⑫	2.6	2.6	2.5	2.4	2.5	2.7
⑳	0	0	0.8	0.8	0.9	0.9
㉕	2.1	2.7	1.9	1.9	1.9	2.7
IC306 ①	8.1	8.1	8.1	8.1	8.1	0
②	0	0	0	0.1	0.1	4.4
IC309 ②	3.6	0	3.6	3.6	3.6	3.6
④	0	0	0	0	0	4.4
IC310 ①	6.2	6.2	6.2	6.2	6.2	5.9
③	6.3	6.3	6.2	6.2	6.2	5.9
⑬	5.9	5.9	6.0	6.3	5.9	5.9
IC311 ①	0	6.2	6.2	6.2	6.2	6.2
②	6.2	6.2	6.2	6.2	6.2	5.9
④	6.2	6.3	6.3	6.2	6.2	5.9
⑧	3.3	3.3	2.9	2.9	2.9	0
⑩	5.9	5.9	5.9	6.2	5.8	5.9
⑬	0.4	0.4	0.4	0.4	0.5	0.7
IC312 ②	3.6	0	3.6	3.6	3.6	3.6
④	0	0	0	12.0	0.1	4.5
IC313 ①	0	6.3	0	6.3	6.3	6.3
②	0.1	0	0	0	0.1	4.9
IC314 ②	0	3.0	7.6	0	3.0	0
④	0	0	0	0	2.9	0.1
IC320 ①	6.3	6.3	6.3	6.3	6.3	0
②	3.0	0	0	3.1	0	0
④	0	0	0	0	3.3	0
IC321 ②	0	0.1	0.1	0	2.9	0
④	0	0	0	0	0.1	2.7
IC322 ⑤	5.8	5.9	6.0	6.3	5.9	5.9
IC232 ⑤	6.2	6.3	6.2	6.2	6.2	5.9
⑦	0	5.6	5.6	5.6	5.6	5.6
IC324 ⑤	6.2	6.2	6.2	6.2	6.2	5.9
IC326 ①	5.9	5.9	6.0	6.3	5.9	5.9
②	5.9	5.9	5.9	6.2	5.8	5.9
③	5.9	5.9	5.9	6.2	5.8	5.9
⑤	1.7	1.9	1.6	1.6	2.1	2.1
⑥	2.4	1.0	2.3	2.3	2.3	4.6
⑦	0	−0.1	10.8	0	−0.1	0
⑧	6.3	6.3	6.3	6.3	6.2	5.9
⑨	6.3	6.3	6.3	6.3	6.2	5.9
⑩	6.3	6.3	6.2	6.2	6.2	5.9

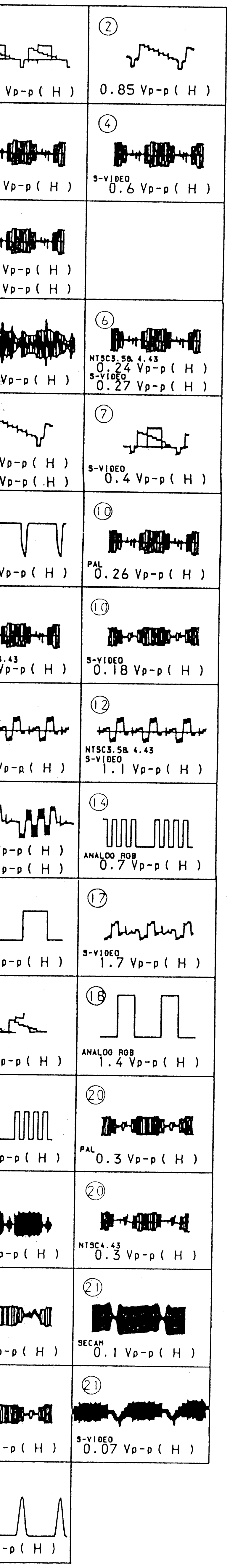
	PAL	SECAM
IC326 ⑫	6.2	6.2
⑬	6.2	6.2
⑭	6.2	6.2
IC350 ①	6.6	6.5
②	6.2	6.2
③	6.2	6.2
Q300 B	2.5	2.5
C	10.2	10.2
E	1.9	1.9
Q301 E	8.6	8.5
Q303 E	5.7	5.7
Q305 B	8.6	8.5
E	7.9	7.9
Q307 E	1.4	1.4
Q309 B	1.4	1.4
C	0.1	0.1
E	0.7	1.8
Q312 C	8.2	8.2
Q313 B	8.2	8.2
E	8.8	8.8
Q314 B	11.9	6.4
C	0	11.9
Q315 B	3.3	3.2
E	3.9	3.9
Q318 B	12.1	12.0
C	1.0	1.0
Q322 B	2.4	2.4
E	1.8	1.8
Q323 B	5.0	5.0
C	0	0
Q324 B	4.1	4.2
C	0	0
Q328 D	2.8	2.8
Q329 G	0	0
Q332 B	4.9	5.0
C	0	0
Q333 B	1.7	1.7
E	1.5	1.5
Q336 G	4.7	4.6
D	4.3	4.3
Q347 B	0.1	4.2
C	9.4	0.1
Q349 B	2.8	2.7
E	3.4	3.3
Q354 B	12.0	0.6
E	12.0	0.4
Q360 1	6.2	6.2
3	6.2	6.2
5	1.3	4.7
Q361 B	4.9	4.9
C	0.1	0
Q364 C	3.3	3.3
Q372 B	0	0
C	11.7	11.7

A (2/3) BOARD

IC302	PAL-60-ID2	Q306	PAL TRAP BUFFER 1	Q336	ID SW
IC303	SECAM DECODER	Q307	SYNC-CHIP-CLAMP 2	Q337	BELL-FILL-BUFF
IC304	SYSTEM-SW	Q308	CLAMP-REF	Q341	G/Y BUFFER
IC305	CHROMA-DEMOD	Q309	CLAMP-BUFF-2	Q342	R/R-Y BUFFER
IC309	R/R-Y/SW	Q310	PAL TRAP BUFFER 2	Q343	B/B-Y BUFFER
IC310	BLACK-INSERT	Q311	SLICER 2	Q345	MUTE SW
IC311	SAMPLE	Q312	AMP-1	Q346	ID SW
IC312	B/B-Y-SW	Q313	AMP-2	Q347	SECAM SW
IC313	SYNC SELECT	Q314	SECAM SW	Q348	R-Y BUFFER
IC314	Y-SW	Q315	BUFF	Q349	B-Y BUFFER
IC316	SECAM CHROMA SELECT	Q317	—	Q350	INSERT-PULSE SW
IC318	NOT-GATE	Q318	SYNC-SEP	Q351	G/Y-BUFF-2
IC320	CHROMA BPF SELECT	Q319	Y-SW-BUFF	Q352	R/R-Y-BUFF-2
IC321	Y-D.L.-SW	Q320	BUFFER	Q353	B/B-Y-BUFF-2
IC322	G/Y SW SELECT	Q321	B/W-SW 2	Q354	B/W-SW2
IC323	B/B-Y SW SELECT	Q322	BPF-SW-BUFF	Q360	HOLD
IC324	R/R-Y SW SELECT	Q323	PAL SW	Q361	EXT-SYNC SW
IC325	AUDIO SELECT	Q324	PAL SW	Q363	TEST BUFFER
IC326	HOLD AMP	Q325	SYNC-SIG-BUFF	Q364	V-PULSE SW
IC350	BUFFER AMP	Q326	Y-AMP-1	Q372	RGB SW
		Q327	Y-AMP-2		
		Q328	443 SW		
Q300	PHASE SHIFT	Q329	358 SW	D300	PHASE ADJ
Q301	SYNC-SHIP CLAMP 1	Q330	R-Y-BUFF 1	D301	SW
Q302	BUFFER	Q331	B-Y-BUFF 1	D302	D. C. SHIFT
Q303	VIDEO-IN-BUFF-1	Q332	358 SW	D303	SECAM SW
Q305	CLAMP-BUFF-1	Q333	SYNC-BUFF	D304	SW

are NOT MOUNT

RMS



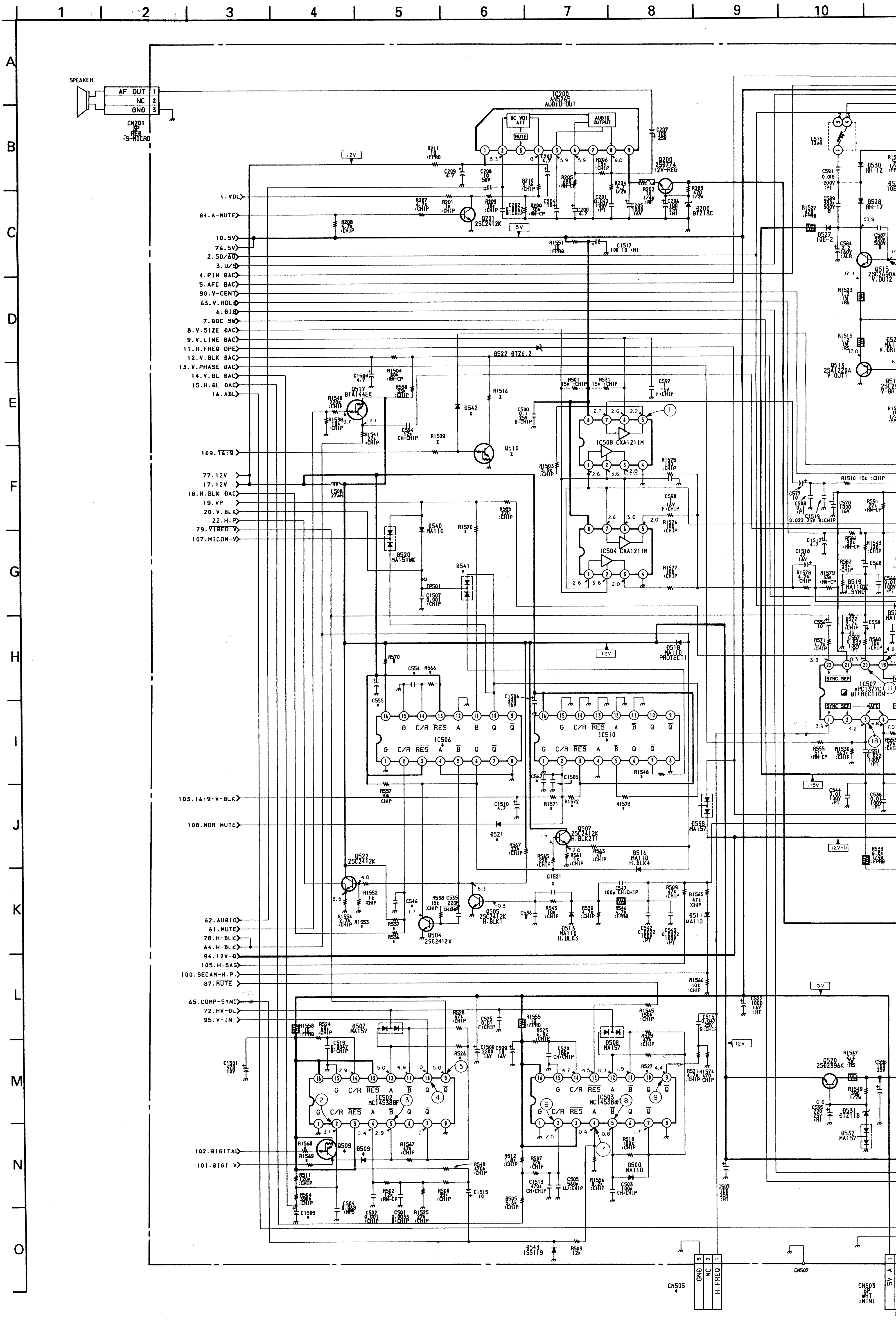
A (2/3) BOARD * MARK

	PAL	SECAM	NTSC 3.58	NTSC 4.43	S-VIDEO	ANALOG RGB
IC302 ①	2.9	2.9	2.9	0.3	2.9	2.9
⑤	5.3	5.1	4.5	4.5	4.5	4.5
⑦	10.5	8.4	0	0	0	0
IC303 ⑧	2.3	2.6	2.2	2.2	2.6	2.8
⑭	0.1	4.2	0.6	0.6	0.6	0.1
⑯	3.9	2.8	3.1	3.1	3.3	3.9
IC304 ④	2.2	2.6	2.2	2.2	2.2	2.2
⑨	9.4	0.1	9.4	9.4	9.4	9.4
⑩	7.3	7.3	2.5	2.5	2.6	2.5
⑪	7.3	7.3	2.5	2.6	2.6	2.5
⑭	1.9	1.9	2.2	2.2	2.2	2.2
⑮	2.5	2.5	2.2	2.2	2.3	2.2
IC305 ①	2.8	2.8	2.8	0	2.8	2.8
④	2.5	1.1	2.5	2.4	2.4	1.3
⑦	4.1	4.1	4.1	4.1	4.2	4.5
⑫	2.6	2.6	2.5	2.4	2.5	2.7
⑳	0	0	0.8	0.8	0.9	0.9
㉕	2.1	2.7	1.9	1.9	1.9	2.7
IC306 ①	8.1	8.1	8.1	8.1	8.1	0
②	0	0	0	0.1	0.1	4.4
IC309 ②	3.6	0	3.6	3.6	3.6	3.6
④	0	0	0	0	0	4.4
IC310 ①	6.2	6.2	6.2	6.2	6.2	5.9
③	6.3	6.3	6.2	6.2	6.2	5.9
⑬	5.9	5.9	6.0	6.3	5.9	5.9
IC311 ①	0	6.2	6.2	6.2	6.2	6.2
②	6.2	6.2	6.2	6.2	6.2	5.9
④	6.2	6.3	6.3	6.2	6.2	5.9
⑧	3.3	3.3	2.9	2.9	2.9	0
⑩	5.9	5.9	5.9	6.2	5.8	5.9
⑬	0.4	0.4	0.4	0.4	0.5	0.7
IC312 ②	3.6	0	3.6	3.6	3.6	3.6
④	0	0	0	12.0	0.1	4.5
IC313 ①	0	6.3	0	6.3	6.3	6.3
②	0.1	0	0	0	0.1	4.9
IC314 ②	0	3.0	7.6	0	3.0	0
④	0	0	0	0	2.9	0.1
IC320 ①	6.3	6.3	6.3	6.3	6.3	0
②	3.0	0	0	3.1	0	0
④	0	0	0	0	3.3	0
IC321 ②	0	0.1	0.1	0	2.9	0
④	0	0	0	0	0.1	2.7
IC322 ⑤	5.8	5.9	6.0	6.3	5.9	5.9
IC232 ⑤	6.2	6.3	6.2	6.2	6.2	5.9
⑦	0	5.6	5.6	5.6	5.6	5.6
IC324 ⑤	6.2	6.2	6.2	6.2	6.2	5.9
IC326 ①	5.9	5.9	6.0	6.3	5.9	5.9
②	5.9	5.9	5.9	6.2	5.8	5.9
③	5.9	5.9	5.9	6.2	5.8	5.9
⑤	1.7	1.9	1.6	1.6	2.1	2.1
⑥	2.4	1.0	2.3	2.3	2.3	4.6
⑦	0	-0.1	10.8	0	-0.1	0
⑧	6.3	6.3	6.3	6.3	6.2	5.9
⑨	6.3	6.3	6.3	6.3	6.2	5.9
⑩	6.3	6.3	6.2	6.2	6.2	5.9

	PAL	SECAM	NTSC 3.58	NTSC 4.43	S VIDEO	ANALOG RGB
IC326 ⑫	6.2	6.2	6.2	6.2	6.2	5.9
⑬	6.2	6.2	6.2	6.3	6.2	5.9
⑭	6.2	6.2	6.2	6.2	6.2	5.9
IC350 ①	6.6	6.5	6.4	6.3	6.1	6.9
②	6.2	6.2	6.2	6.3	6.0	6.4
③	6.2	6.2	6.2	6.3	6.0	6.4
Q300 B	2.5	2.5	2.2	2.2	2.2	2.2
C	10.2	10.2	10.4	10.5	10.4	10.5
E	1.9	1.9	1.6	1.6	1.6	1.6
Q301 E	8.6	8.5	8.2	8.3	8.5	9.8
Q303 E	5.7	5.7	5.7	5.7	5.5	5.7
Q305 B	8.6	8.5	8.2	8.3	8.5	9.8
E	7.9	7.9	7.6	7.7	7.9	9.1
Q307 E	1.4	1.4	1.1	1.2	1.4	2.7
Q309 B	1.4	1.4	1.1	1.2	1.4	2.6
C	0.1	0.1	0.2	0.1	0.1	0
E	0.7	1.8	1.7	1.8	0	1.8
Q312 C	8.2	8.2	8.6	8.3	8.3	8.1
Q313 B	8.2	8.2	8.6	8.3	8.2	8.1
E	8.8	8.8	9.3	9.0	8.9	8.7
Q314 B	11.9	6.4	11.9	11.9	11.9	11.9
C	0	11.9	0	0	0	0
Q315 B	3.3	3.2	2.9	3.1	3.2	3.3
E	3.9	3.9	3.5	3.8	3.8	4.0
Q318 B	12.1	12.0	11.7	11.9	12.1	12.1
C	1.0	1.0	1.2	1.0	1.0	0.9
Q322 B	2.4	2.4	2.3	2.3	5.6	2.4
E	1.8	1.8	1.8	1.8	5.0	1.8
Q323 B	5.0	5.0	0	0	0	0
C	0	0	3.5	3.5	3.5	3.6
Q324 B	4.1	4.2	0	0	0	0
C	0	0	0.8	0.8	0.8	0.9
Q328 D	2.8	2.8	2.8	2.8	0	0
Q329 G	0	0	1.6	0	2.9	2.8
Q332 B	4.9	5.0	0	4.9	0	0
C	0	0	4.4	0	4.3	4.4
Q333 B	1.7	1.7	1.9	1.8	1.7	1.7
E	1.5	1.5	1.7	1.5	1.5	1.4
Q336 G	4.7	4.6	4.6	4.7	4.2	4.8
D	4.3	4.3	4.3	4.3	4.5	4.3
Q347 B	0.1	4.2	0.1	0.1	0.6	0.1
C	9.4	0.1	9.4	9.4	9.4	9.4
Q349 B	2.8	2.7	2.7	2.7	2.2	2.8
E	3.4	3.3	3.4	3.4	2.8	3.4
Q354 B	12.0	0.6	0	0	0	0
E	12.0	0.4	0	0	0	-0.2
Q360 1	6.2	6.2	6.2	6.3	6.1	6.4
3	6.2	6.2	6.2	6.3	6.0	6.4
5	1.3	4.7	2.2	4.1	5.3	3.8
Q361 B	4.9	4.9	5.0	5.0	5.0	0.8
C	0.1	0	0	0	0.1	4.9
Q364 C	3.3	3.3	2.9	2.9	2.8	2.9
Q372 B	0	0	0	0	0	4.9
C	11.7	11.7	11.8	11.8	11.7	0

A (2/3) BOARD

IC302	PAL-60-ID2	Q306	PAL TRAP BUFFER 1	Q336	ID SW	D305	PROTECT
IC303	SECAM DECODER	Q307	SYNC-CHIP-CLAMP 2	Q337	BELL-FILL-BUFF	D307	B/W-SW
IC304	SYSTEM-SW	Q308	CLAMP-REF	Q341	G/Y BUFFER	D308	SW
IC305	CHROMA-DEMOD	Q309	CLAMP-BUFF-2	Q342	R/R-Y BUFFER	D309	B/W-SW
IC309	R/R-Y/SW	Q310	PAL TRAP BUFFER 2	Q343	B/B-Y BUFFER	D310	CLAMP
IC310	BLACK-INSERT	Q311	SLICER 2	Q345	MUTE SW	D311	XTAL ADJ
IC311	SAMPLE	Q312	AMP-1	Q346	ID SW	D312	—
IC312	B/B-Y-SW	Q313	AMP-2	Q347	SECAM SW	D313	SW
IC313	SYNC SELECT	Q314	SECAM SW	Q348	R-Y BUFFER	D315	7.5 UPSW
IC314	Y-SW	Q315	BUFF	Q349	B-Y BUFFER	D317	LEVEL-SHIFT
IC316	SECAM CHROMA SELECT	Q317	—	Q350	INSERT-PULSE SW	D320	SLICE
IC318	NOT-GATE	Q318	SYNC-SEP	Q351	G/Y-BUFF-2	D322	SLICE
IC320	CHROMA BPF SELECT	Q319	Y-SW-BUFF	Q352	R/R-Y-BUFF-2	D323	SW
IC321	Y-D.L.-SW	Q320	BUFFER	Q353	B/B-Y-BUFF-2	D324	R-Y COLOR BALANCE ADJ
IC322	G/Y SW SELECT	Q321	B/W-SW 2	Q354	B/W-SW2	D326	B-Y COLOR BALANCE ADJ
IC323	B/B-Y SW SELECT	Q322	BPF-SW-BUFF	Q360	HOLD	D327	SW
IC324	R/R-Y SW SELECT	Q323	PAL SW	Q361	EXT-SYNC SW	D332	RGB COMP SW
IC325	AUDIO SELECT	Q324	PAL SW	Q363	TEST BUFFER	D336	SW
IC326	HOLD AMP	Q325	SYNC-SIG-BUFF	Q364	V-PULSE SW	D337	SECAM-SW
IC350	BUFFER AMP	Q326	Y-AMP-1	Q372	RGB SW	D338	SW
		Q327	Y-AMP-2			D339	SW
		Q328	443 SW			D345	OSD G CLAMP
Q300	PHASE SHIFT	Q329	358 SW	D300	PHASE ADJ	D346	OSD B CLAMP
Q301	SYNC-SHIP CLAMP 1	Q330	R-Y-BUFF 1	D301	SW	D347	OSD R CLAMP
Q302	BUFFER	Q331	B-Y-BUFF 1	D302	D. C. SHIFT	D361	SW
Q303	VIDEO-IN-BUFF-1	Q332	358 SW	D303	SECAM SW	D365	SECAM SW
Q305	CLAMP-BUFF-1	Q333	SYNC-BUFF	D304	SW	D381	SW



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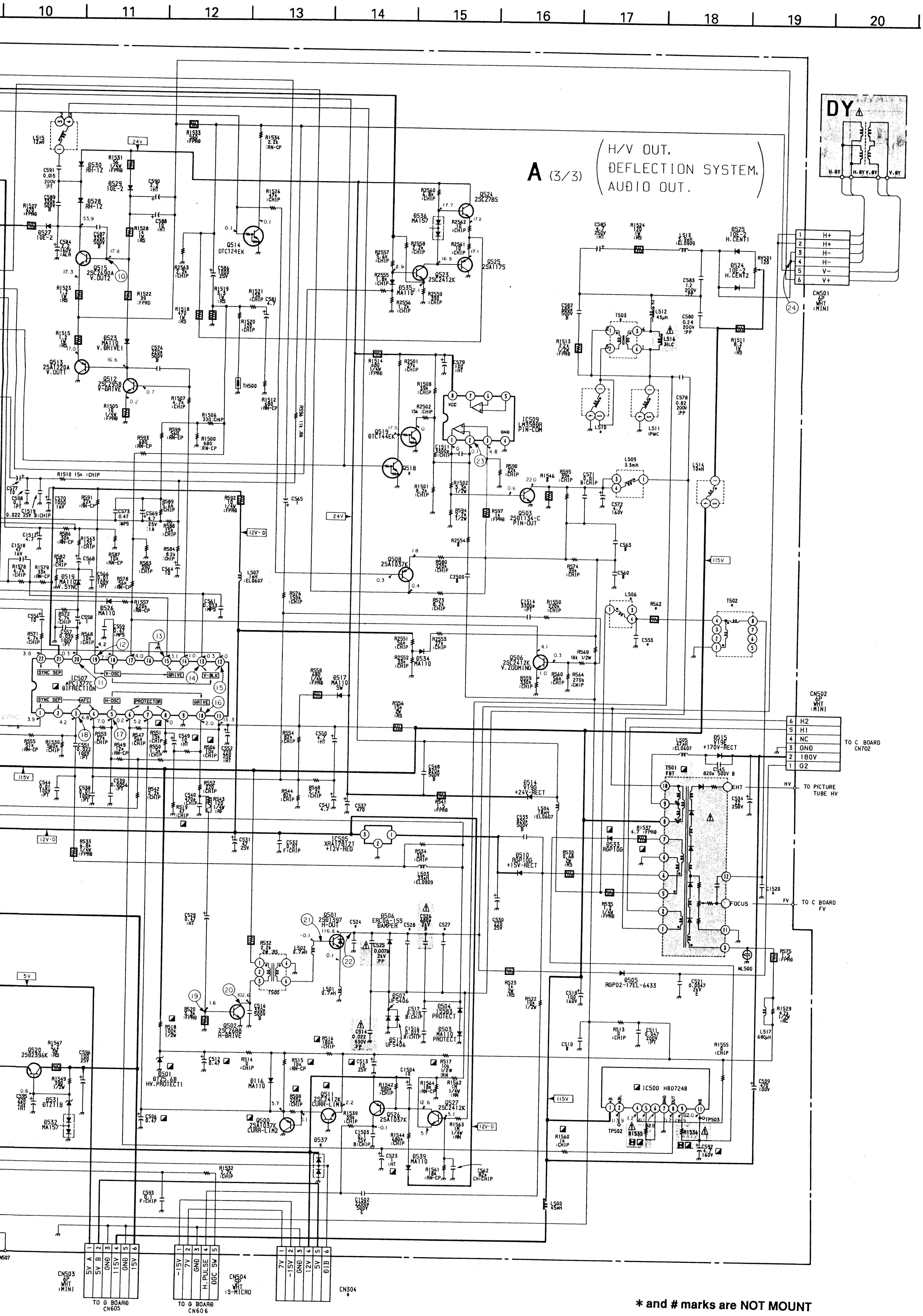
SPEAKER
AF OUT 1
NC 2
GND 3
CN201 3P RED :S-MICRO
IC200 AN5265 AUDIO-OUT
DC VOL ATT
MUTE
AUDIO OUTPUT
Q200 2SB774 12V-REG
D200 DTZ13C
Q201 2SC2412K
12V
5V
1.VOL
84.A-MUTE
10.5V
76.5V
2.50/60
3.U/S
4.PIN DAC
5.AFC DAC
90.V-CENT
63.V.HOLD
6.DID
7.DDC SW
8.V.SIZE DAC
9.V.LINE DAC
11.H.FREQ DPE
12.V.BLK DAC
13.V.PHASE DAC
14.V.DL DAC
15.H.DL DAC
16.ABL
109.16:9
77.12V
17.12V
18.H.BLK DAC
19.VP
20.V.BLK
22.H.P
79.VIDEO V
107.MICOM-V
D522 DTZ6.2
Q517 DTA144EK
D542
Q510
IC508 CXA1211M
IC504 CXA1211M
D540 MA110
D520 MA151WK
D541
TP501
L508 27μH
IC506
G C/R RES A B Q Q
IC510
D518 MA110 PROTECT1
103.16:9-V-BLK
108.NOR MUTE
D521
Q507 2SC2412K H.BLK2T1
D516 MA110 H.BLK4
D538 MA157
Q522 2SC2412K
Q504 2SC2412K
Q505 2SC2412K H.BLK1
D513 MA110 H.BLK3
D511 MA110
62.AUDIO
61.MUTE
78.H-BLK
64.H-BLK
94.12V-D
105.H-SAG
100.SECAM-H.P.
87.MUTE
65.COMP-SYNC
72.HV-DL
95.V-IN
D507 MA157
IC502 MC14538BF
D508 MA157
IC503 MC14538BF
102.DIGITAL
101.DIGI-V
Q509
D509
D500 MA110
D543 1SS119
CN505
GND 3
NC 2
H.FREQ 1
CN507
CN503 WHT :MINI
5V A 1
L515 12μH
D530 RH-1Z
D528 RH-1Z
D527 10E-2
Q515 2SC2690A V.OUT2
Q513 2SA1220A V.OUT1
IC507 μPC1377C DIFRECTION
SYNC SEP
AFC
D519 MA110 V.SYNC
15V
12V-D
Q520 2SD2396K
D531 DTZ18
D532 MA157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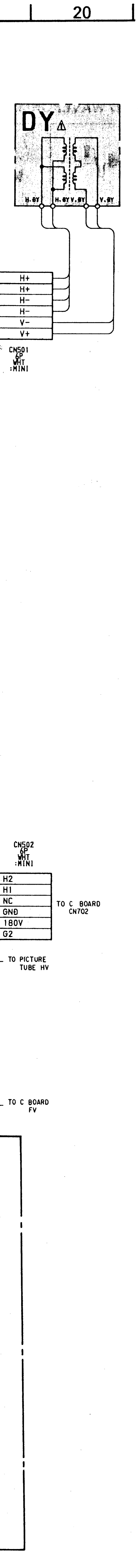
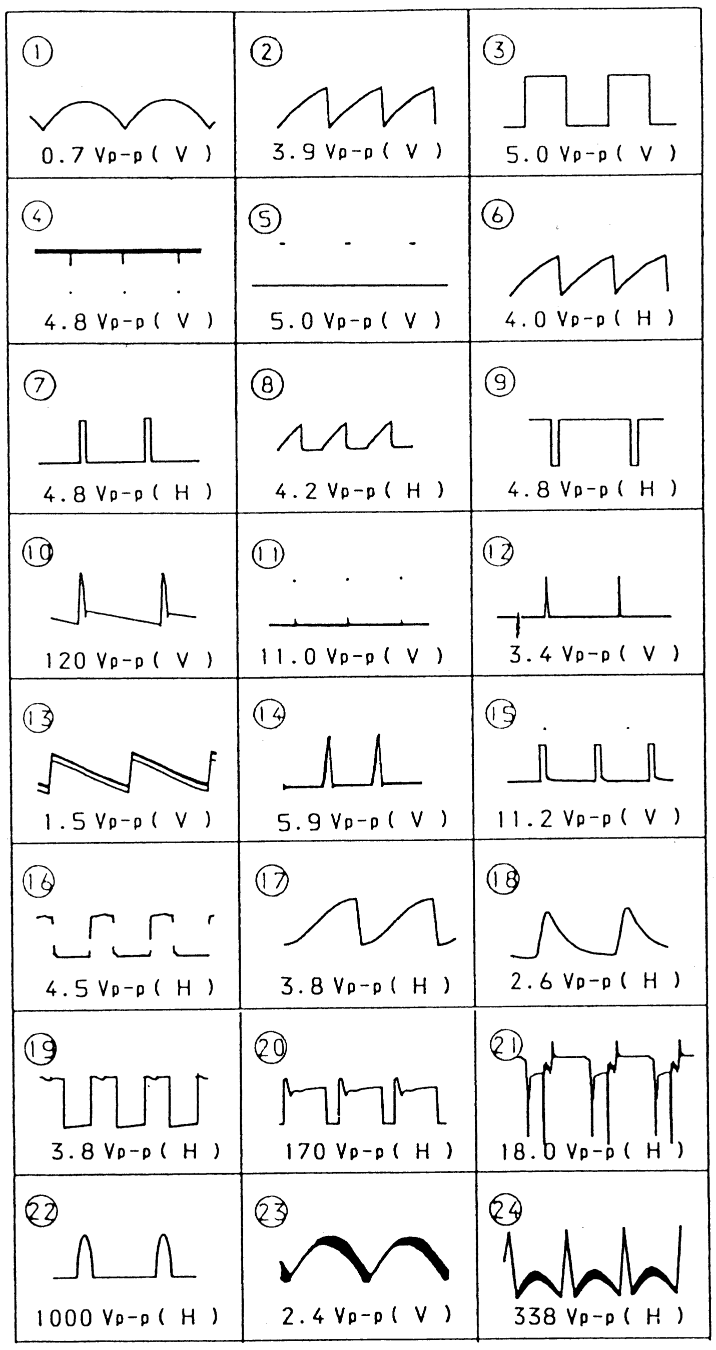
A (3/3)
H/V OUT, DEFLECTION SYSTEM, AUDIO OUT.
DY
H.BY
H.BY V.BY
V.BY
H+
H+
H-
H-
V-
V+
CN501 6P WHT :MINI
IC509 LM358DR PIN-COM
IC507 μPC1377C DIFRECTION
SYNC SEP
V-OSC
DRIVE
V-BLK
AFC
H-OSC
PROTECTOR
Q514 DTC124EK
Q515 2SC2690A V.OUT2
Q513 2SA1220A V.OUT1
Q512 2SC2458 V-DRIVE
Q523 MA110 V.DRIVE1
Q524 2SC2785
Q525 2SA1175
Q523 2SC2412K
Q519 DTC144EK
Q518
Q503 2SD1134-C PIN-OUT
Q508 2SA1037K
Q506 2SC2412K V.ZOOMING
Q501 2SD1397 H-OUT
D506 ERC06-15S DAMPER
Q502 2SC2688 H-DRIVE
Q511 2SC2412K CURR-LIM1
Q500 2SA1037K CURR-LIM2
Q526 2SA1037K
Q527 2SC2412K
Q520 2SD2396K
IC505 XRA17812T +12V-REG
IC500 HBD7248
T501 FBT
T502
T503
T500
EHT
FOCUS
TO PICTURE TUBE HV
TO C BOARD CN702
TO C BOARD FV
CN502 6P WHT :MINI
H2
H1
NC
GND
180V
G2
D515 V19E +170V-RECT
D514 V19G +24V-RECT
D510 RGP10G +15V-RECT
D505 RGP02-17EL-6433
D501 DTZ5.6B HV.PROTECT1
24V
12V-D
115V
5V
CN503 6P WHT :MINI
5V A
5V B
GND
115V
GND
15V
TO G BOARD CN605
CN504 5P WHT :S-MICRO
-15V
7V
GND
H.PULSE
DGC SW
TO G BOARD CN606
CN304
7V
-15V
GND
12V
5V
DIB

* and # marks are NOT MOUNT



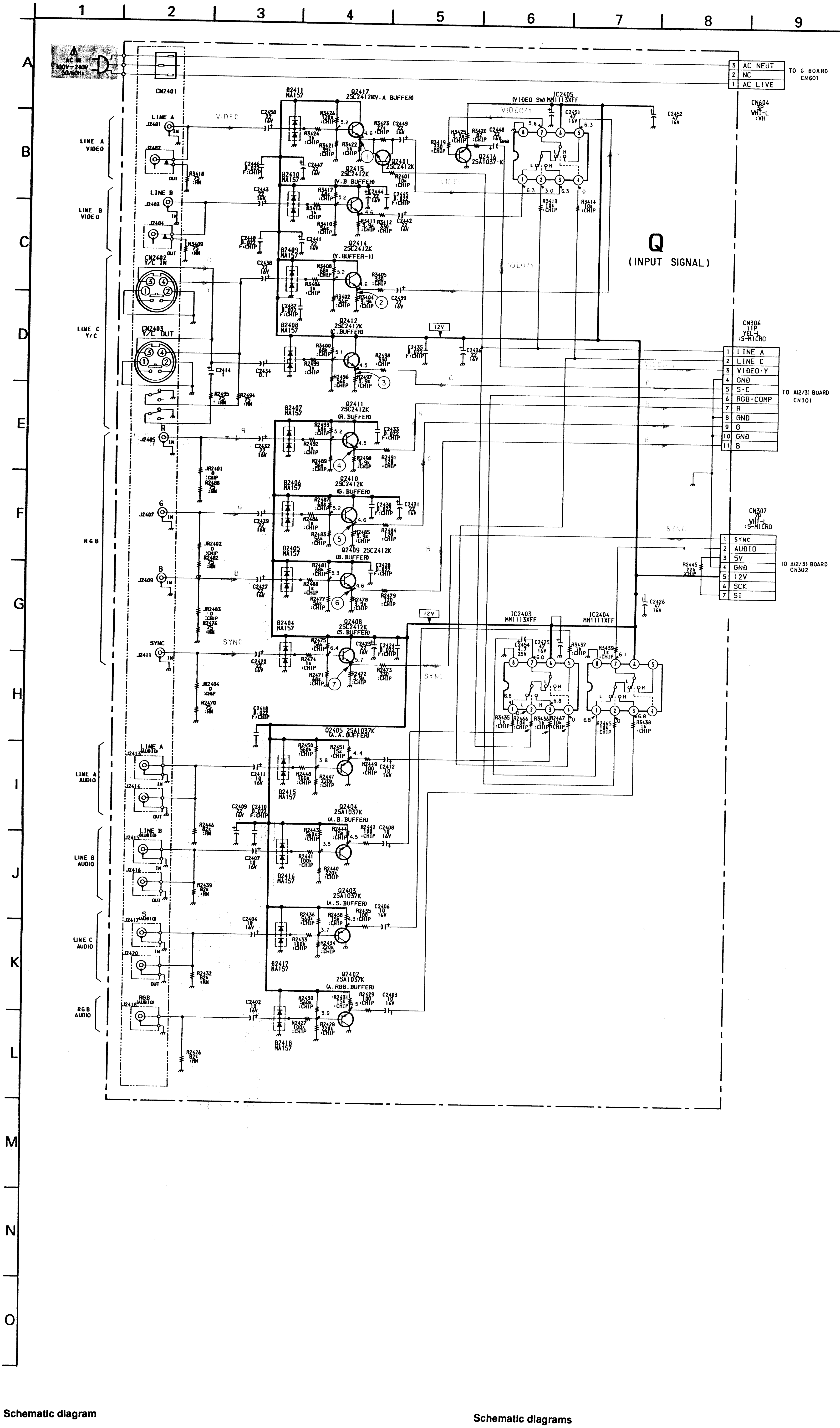
UNT

A (3/3) BOARD WAVEFORMS

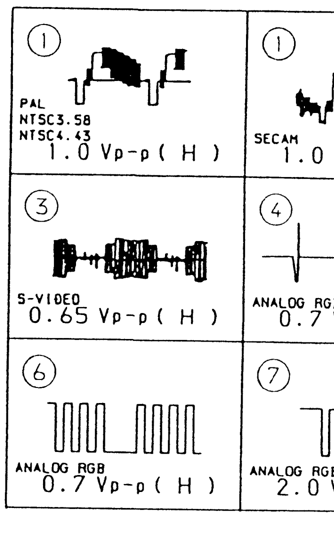


A (3/3) BOARD

IC200	AUDIO OUT
IC500	X-RAY PROTECT
IC502	V DELAY MONO-MULTI
IC503	H DELAY MONO-MULTI
IC504	V GAIN-CONT AMP 2
IC505	+12V REG
IC507	DEFLECTION
IC508	V GAIN-CONT AMP 1
IC509	PIN COMPLETION
Q200	+12 REG
Q201	MUTE SW
Q500	CURR LIM 2
Q501	H OUT
Q502	H DRIVE
Q503	PIN OUT
Q504	H BLK
Q505	H BLK 1
Q506	V ZOOMING
Q507	H BLK BUFFER
Q508	50/60 SWITCH
Q511	CURR LIM 1
Q512	V DRIVE
Q513	V OUT 1
Q514	V CENT SW
Q515	V OUT 2
Q517	H-V PHASE LOCK SW
Q519	U/S SWITCH 2
Q520	+12V REG
Q522	H PULSE BUFFER
Q523	V CENT CONT
Q524	V CENT OUT 2
Q525	V CENT OUT 1
Q526	FBT +12V FAILURE SW
Q527	FAILURE
D116	CURR LIMITER
D200	AUDIO DC SHIFT
D500	SPEED UP
D501	HV PROTECT
D502	PIN DAMPER
D503	PROTECT
D504	PROTECT
D505	G2 RECT
D506	DAMPER
D507	HV DELAY SWITCH
D508	HV DELAY SWITCH
D510	+15V RECT
D511	H P SW
D512	PIN DAMPER 2
D513	H BLK
D514	+24V RECT
D515	+170V RECT
D516	H BLK
D517	SWITCH
D518	PROTECT
D519	V SYNC
D520	MICOM SWITCH
D522	DC UP
D523	V DRIVE
D524	H CENT
D525	H CENT
D526	50/60 SWITCH
D527	DC LIMITER
D528	PUMP-UP 2
D529	SWITCH
D530	PUMP-UP
D531	+12V REF 1
D532	+12V REF 2
D533	HV PROTECT RECT
D534	SWITCH
D535	BIAS
D536	BIAS
D538	PROTECT
D539	SWITCH
D540	V BLK SWITCH 1
D543	PROTECT


Q
(INPUT SIGNAL)
AC IN 100V-240V 50/60Hz
CN2401
AC NEUT
NC
AC LIVE
TO G BOARD CN601
CN604 3P WHT-L :VH
LINE A VIDEO
LINE B VIDEO
LINE C Y/C
CN2402 Y/C IN
CN2403 Y/C OUT
RGB
SYNC
LINE A AUDIO
LINE B AUDIO
LINE C AUDIO
RGB AUDIO
IC2405 (VIDEO SW) MM1113XFF
IC2403 MM1113XFF
IC2404 MM1111XFF
Q2417 2SC2412K (V.A BUFFER)
Q2401 2SC2412K
Q2415 2SC2412K (V.B BUFFER)
Q2414 2SC2412K (Y.BUFFER-1)
Q2416 2SA1037-K
Q2412 2SC2412K (C.BUFFER)
Q2411 2SC2412K (R.BUFFER)
Q2410 2SC2412K (G.BUFFER)
Q2409 2SC2412K (B.BUFFER)
Q2408 2SC2412K (S.BUFFER)
Q2405 2SA1037K (A.A.BUFFER)
Q2404 2SA1037K (A.B.BUFFER)
Q2403 2SA1037K (A.S.BUFFER)
Q2402 2SA1037K (A.RGB.BUFFER)
CN306 11P YEL-L :S-MICRO
LINE A
LINE C
VIDEO·Y
GND
S·C
RGB·COMP
R
GND
G
GND
B
TO A(2/3) BOARD CN301
CN307 7P WHT-L :S-MICRO
SYNC
AUDIO
5V
GND
12V
SCK
SI
TO A(2/3) BOARD CN302
12V

Q BOARD WAVEFORMS



Q BOARD

IC2403	AUDIO SW
IC2404	AUDIO SW
IC2405	VIDEO SW
Q2402	A. RGB. BUFF
Q2403	A. S. BUFFER
Q2404	A. B. BUFFER
Q2405	A. A. BUFFER
Q2408	S. BUFFER
Q2409	B. BUFFER
Q2410	G. BUFFER
Q2411	R. BUFFER
Q2412	C. BUFFER
Q2414	Y. BUFFER-1
Q2415	V. B. BUFFER
Q2416	VIDEO IN BUF
Q2417	V. A. BUFFER
D2404	PROTECT
D2405	PROTECT
D2406	PROTECT
D2407	PROTECT
D2408	PROTECT
D2409	PROTECT
D2410	PROTECT
D2411	PROTECT
D2415	PROTECT
D2416	PROTECT
D2417	PROTECT
D2418	PROTECT

SS.TRI(

Schematic diagram

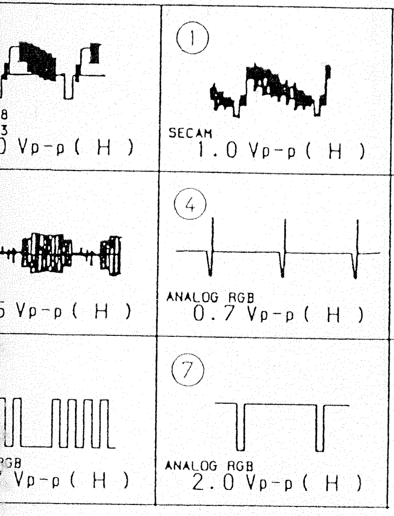
← A (3/3) board

Schematic diagrams

G, H, J, Q boards →

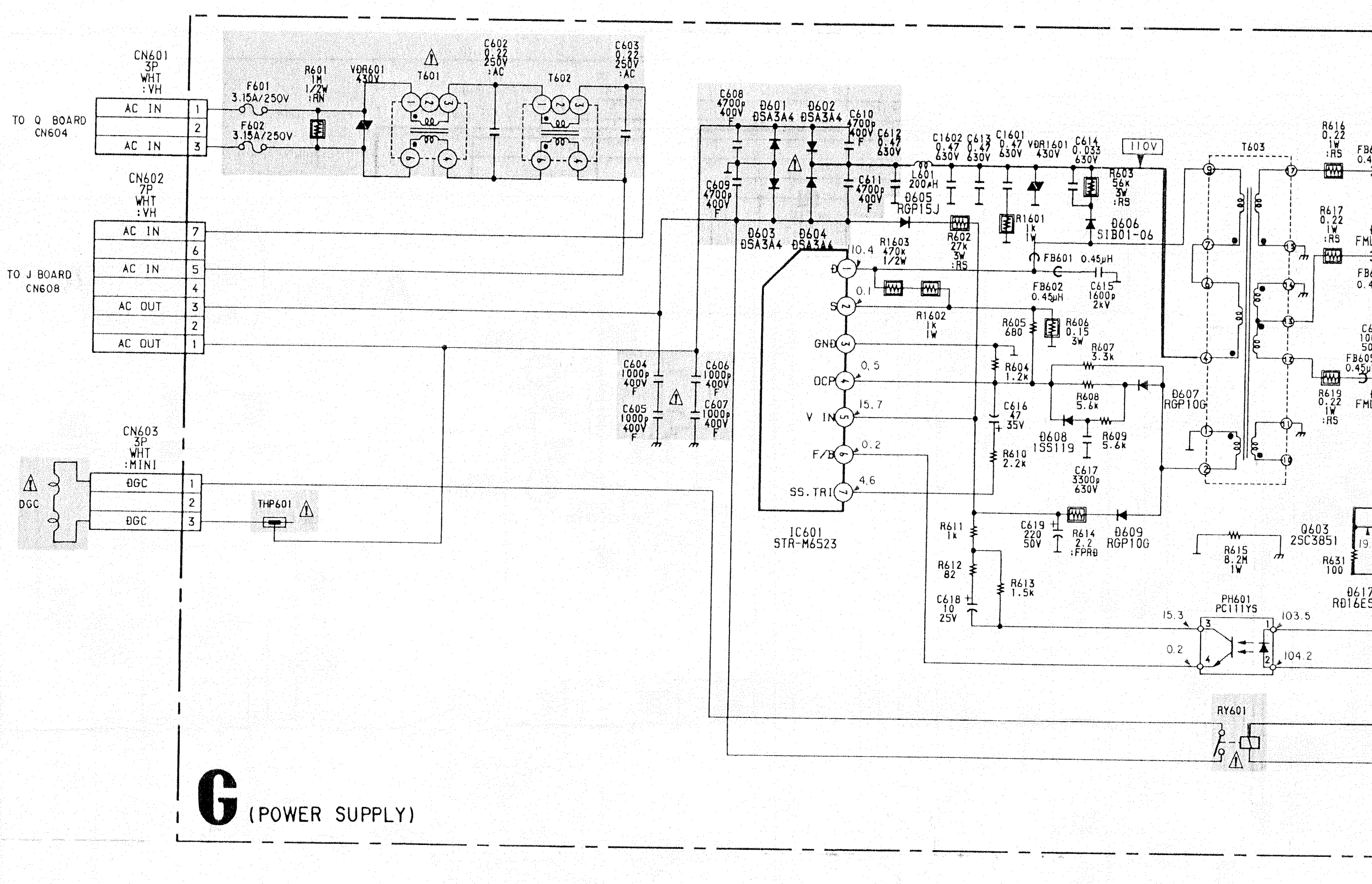
11 12 13 14 15 16 17 18 19 20 21 22

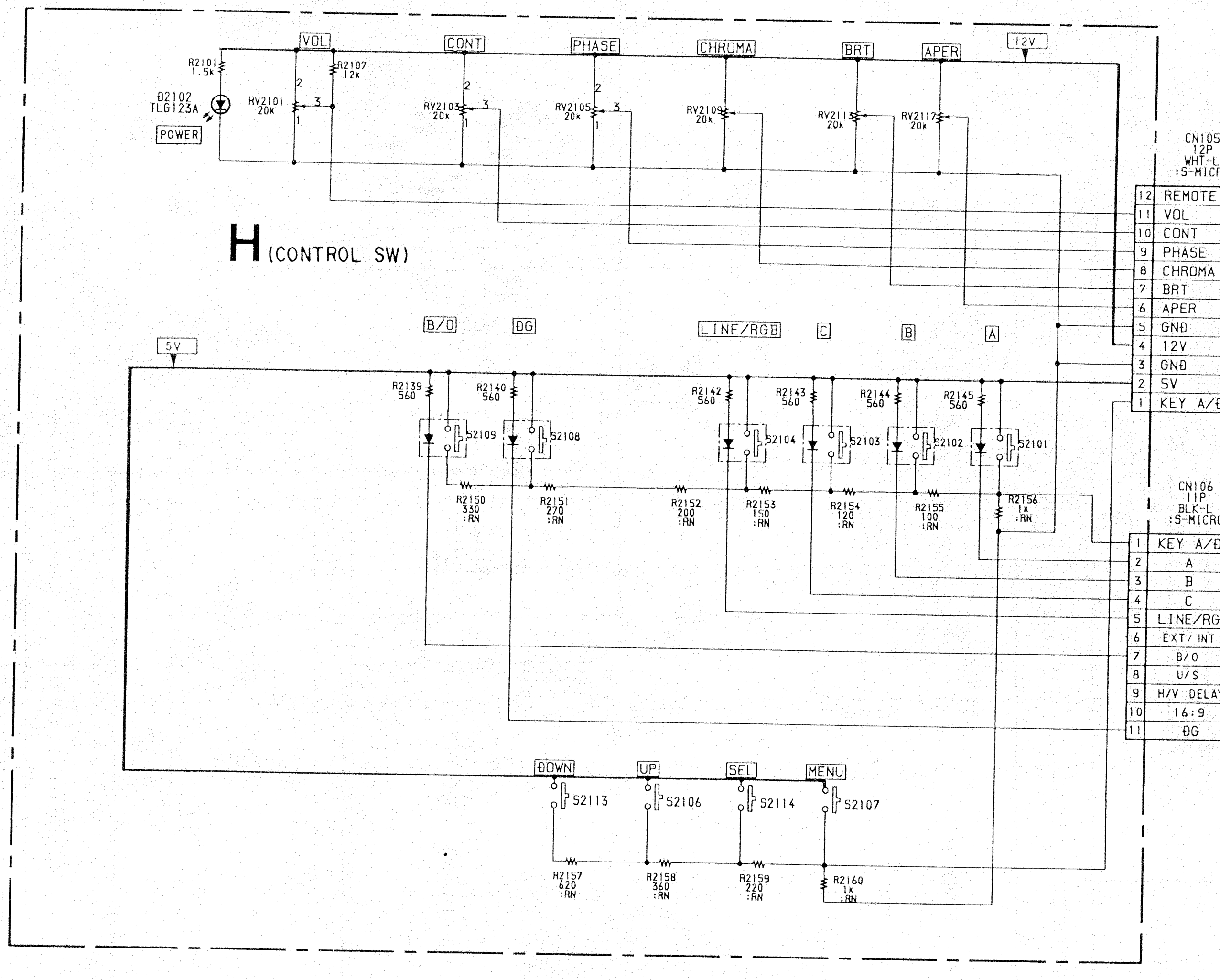
ARD WAVEFORMS



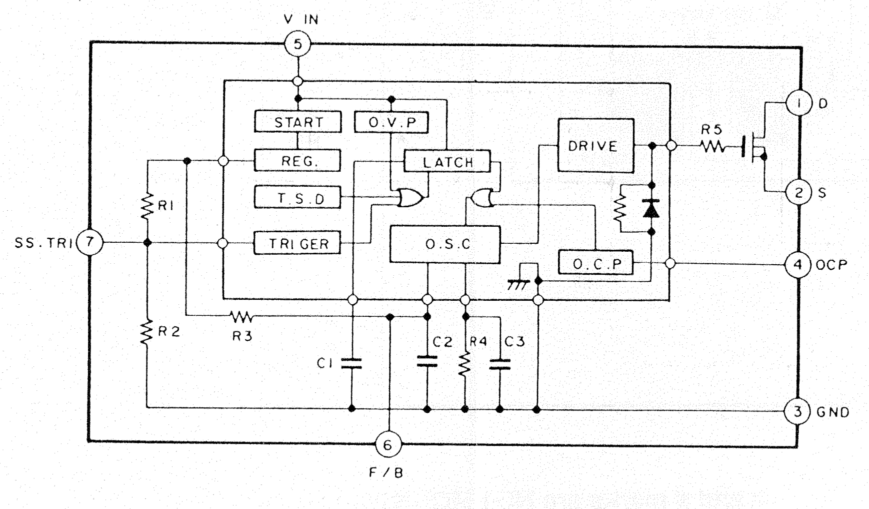
Q BOARD

IC2403	AUDIO SW
IC2404	AUDIO SW
IC2405	VIDEO SW
Q2402	A. RGB. BUFFER
Q2403	A. S. BUFFER
Q2404	A. B. BUFFER
Q2405	A. A. BUFFER
Q2408	S. BUFFER
Q2409	B. BUFFER
Q2410	G. BUFFER
Q2411	R. BUFFER
Q2412	C. BUFFER
Q2414	Y. BUFFER-1
Q2415	V. B. BUFFER
Q2416	VIDEO IN BUFFER
Q2417	V. A. BUFFER
D2404	PROTECT
D2405	PROTECT
D2406	PROTECT
D2407	PROTECT
D2408	PROTECT
D2409	PROTECT
D2410	PROTECT
D2411	PROTECT
D2415	PROTECT
D2416	PROTECT
D2417	PROTECT
D2418	PROTECT

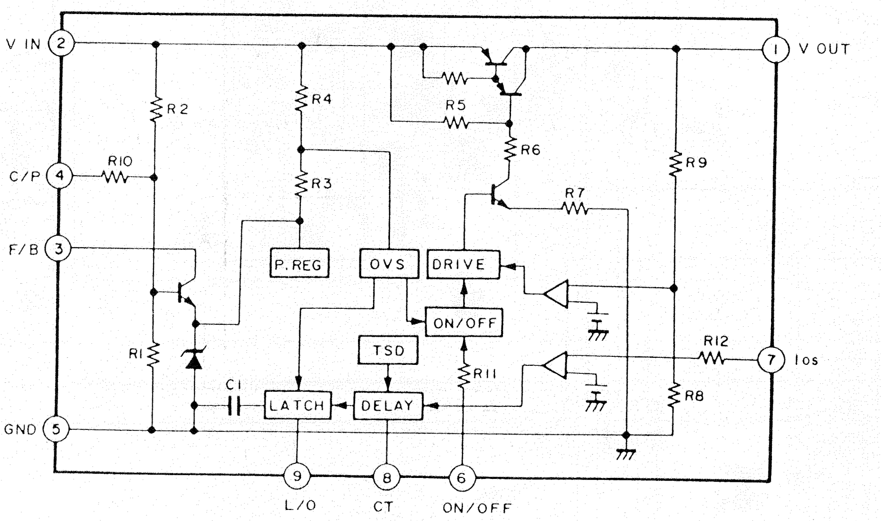

CN601 3P WHT :VH
TO Q BOARD CN604
AC IN
AC IN
F601 3.15A/250V
F602 3.15A/250V
R601 1M 1/2W :RN
VDR601 430V
T601
C602 0.22 250V :AC
T602
C603 0.22 250V :AC
CN602 7P WHT :VH
TO J BOARD CN608
AC IN
AC IN
AC OUT
AC OUT
CN603 3P WHT :MINI
DGC
ĐGC
ĐGC
THP601
C604 1000p 400V F
C605 1000p 400V F
C606 1000p 400V F
C607 1000p 400V F
C608 4700p 400V F
C609 4700p 400V F
Đ601 ĐSA3A4
Đ602 ĐSA3A4
Đ603 ĐSA3A4
Đ604 ĐSA3A4
C610 4700p 400V F
C611 4700p 400V F
C612 0.47 630V
L601 200μH
Đ605 RGP15J
C1602 0.47 630V
C613 0.47 630V
C1601 0.47 630V
VDR1601 430V
C614 0.033 630V
110V
R603 56k 3W :RS
Đ606 SIB01-06
R1601 1k 1W
R1603 470k 1/2W
R602 27k 3W :RS
FB601 0.45μH
FB602 0.45μH
C615 1600p 2kV
R1602 1k 1W
R605 680
R606 0.15 3W
R607 3.3k
R604 1.2k
R608 5.6k
Đ607 RGP10G
C616 47 35V
Đ608 1SS119
R609 5.6k
R610 2.2k
C617 3300p 630V
10.4
0.1
0.5
15.7
0.2
4.6
D
S
GND
OCP
V IN
F/B
SS.TRI
IC601 STR-M6523
R611 1k
C619 220 50V
R614 2.2 :FPRĐ
Đ609 RGP10G
R612 82
R613 1.5k
C618 10 25V
T603
R616 0.22 1W :RS
R617 0.22 1W :RS
R619 0.22 1W :RS
R615 8.2M 1W
Q603 2SC3851
R631 100
PH601 PC111YS
15.3
0.2
103.5
104.2
RY601
G (POWER SUPPLY)

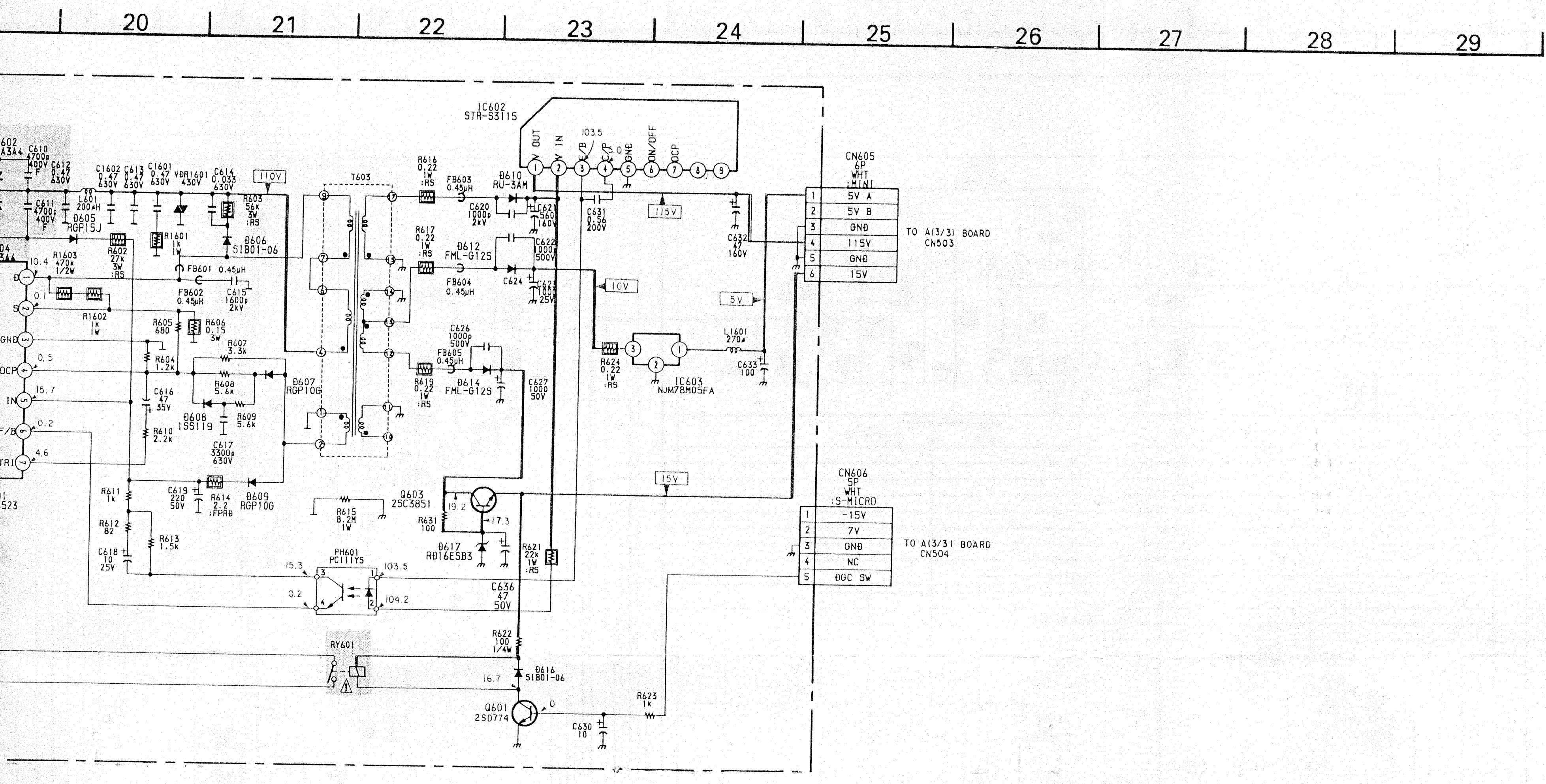

VOL
CONT
PHASE
CHROMA
BRT
APER
12V
R2101 1.5k
R2107 12k
Đ2102 TLG123A
POWER
RV2101 20k
RV2103 20k
RV2105 20k
RV2109 20k
RV2113 20k
RV2117 20k
CN105 12P WHT-L :S-MICRO
12 REMOTE
11 VOL
10 CONT
9 PHASE
8 CHROMA
7 BRT
6 APER
5 GNĐ
4 12V
3 GNĐ
2 5V
1 KEY A/Đ
H (CONTROL SW)
B/O
ĐG
LINE/RGB
C
B
A
5V
R2139 560
R2140 560
R2142 560
R2143 560
R2144 560
R2145 560
S2109
S2108
S2104
S2103
S2102
S2101
R2150 330 :RN
R2151 270 :RN
R2152 200 :RN
R2153 150 :RN
R2154 120 :RN
R2155 100 :RN
R2156 1k :RN
CN106 11P BLK-L :S-MICRO
1 KEY A/Đ
2 A
3 B
4 C
5 LINE/RGB
6 EXT/ INT
7 B/O
8 U/S
9 H/V DELAY
10 16:9
11 ĐG
ĐOWN
UP
SEL
MENU
S2113
S2106
S2114
S2107
R2157 620 :RN
R2158 360 :RN
R2159 220 :RN
R2160 1k :RN

G BOARD IC601 STR-M6523

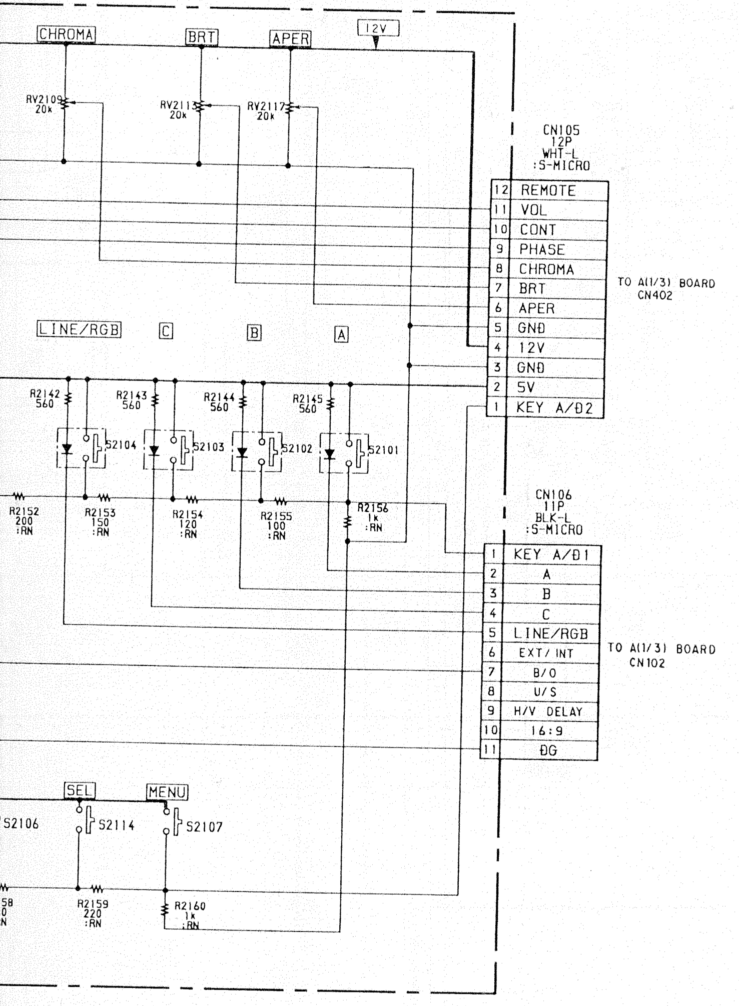

V IN
5
START
O.V.P
REG.
LATCH
DRIVE
T.S.D
TRIGER
O.S.C
O.C.P
R5
1 D
2 S
4 OCP
3 GND
SS.TRI 7
R1
R2
R3
C1
C2
R4
C3
6
F/B

G BOARD IC602 STR-S3115

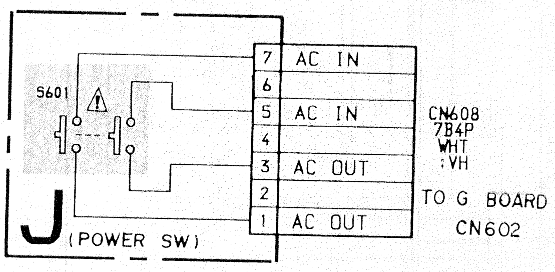

V IN 2
1 V OUT
R2
R4
R5
R6
R3
R9
R7
C/P 4
R10
F/B 3
P.REG
OVS
DRIVE
ON/OFF
TSD
R11
R12
7 Ios
R1
C1
LATCH
DELAY
R8
GND 5
9 L/O
8 CT
6 ON/OFF



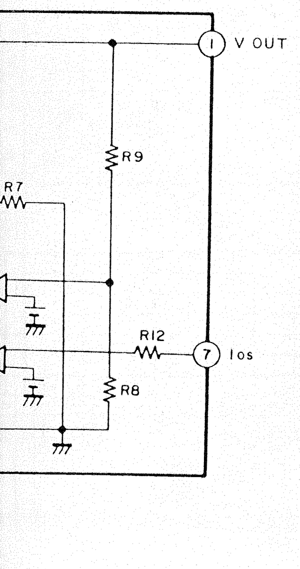
20
21
22
23
24
25
26
27
28
29
IC602
STR-S3115
V OUT
V IN
F/B
C/P
GND
ON/OFF
OCP
103.5
5.0
C610 4700p 400V F
C612 0.47 630V
C611 4700p 400V F
C1602 0.47 630V
C613 0.47 630V
C1601 0.47 630V
VDR1601 430V
C614 0.033 630V
110V
L601 200μH
D605 RGP15J
R603 56k 3W :RS
R1601 1k 1W
D606 S1B01-06
R602 27k 3W :RS
R1603 470k 1/2W
FB601 0.45μH
FB602 0.45μH
C615 1600p 2kV
R1602 1k 1W
R605 680
R606 0.15 3W
R607 3.3k
R604 1.2k
R608 5.6k
C616 47 35V
D608 1SS119
R609 5.6k
R610 2.2k
C617 3300p 630V
D607 RGP10G
R611 1k
R612 82
R613 1.5k
C618 10 25V
C619 220 50V
R614 2.2 :FPRD
D609 RGP10G
10.4
0.1
0.5
15.7
0.2
4.6
GND
OCP
IN
T603
R616 0.22 1W :RS
FB603 0.45μH
D610 RU-3AM
C620 1000p 2kV
C621 560 160V
C631 0.56 200V
R617 0.22 1W :RS
D612 FML-G12S
C622 1000p 500V
FB604 0.45μH
C624
C623 1000 25V
115V
10V
5V
C632 47 160V
C626 1000p 500V
FB605 0.45μH
R619 0.22 1W :RS
D614 FML-G12S
C627 1000 50V
R624 0.22 1W :RS
IC603 NJM78M05FA
L1601 270μ
C633 100
CN605 6P WHT :MINI
1 5V A
2 5V B
3 GND
4 115V
5 GND
6 15V
TO A(3/3) BOARD CN503
15V
R615 8.2M 1W
Q603 2SC3851
19.2
17.3
R631 100
D617 RD16ESB3
R621 22k 1W :RS
PH601 PC111YS
15.3
0.2
103.5
104.2
C636 47 50V
CN606 5P WHT :S-MICRO
1 -15V
2 7V
3 GND
4 NC
5 DGC SW
TO A(3/3) BOARD CN504
RY601
R622 100 1/4W
16.7
D616 S1B01-06
Q601 2SD774
0
R623 1k
C630 10



CHROMA
BRT
APER
12V
RV2109 20k
RV2111 20k
RV2117 20k
CN105 12P WHT-L :S-MICRO
12 REMOTE
11 VOL
10 CONT
9 PHASE
8 CHROMA
7 BRT
6 APER
5 GND
4 12V
3 GND
2 5V
1 KEY A/D2
TO A(1/3) BOARD CN402
LINE/RGB
C
B
A
R2142 560
R2143 560
R2144 560
R2145 560
S2104
S2103
S2102
S2101
R2152 200 :RN
R2153 150 :RN
R2154 120 :RN
R2155 100 :RN
R2156 1k :RN
CN106 11P BLK-L :S-MICRO
1 KEY A/D1
2 A
3 B
4 C
5 LINE/RGB
6 EXT/ INT
7 B/O
8 U/S
9 H/V DELAY
10 16:9
11 DG
TO A(1/3) BOARD CN102
SEL
MENU
S2106
S2114
S2107
R2159 220 :RN
R2160 1k :RN



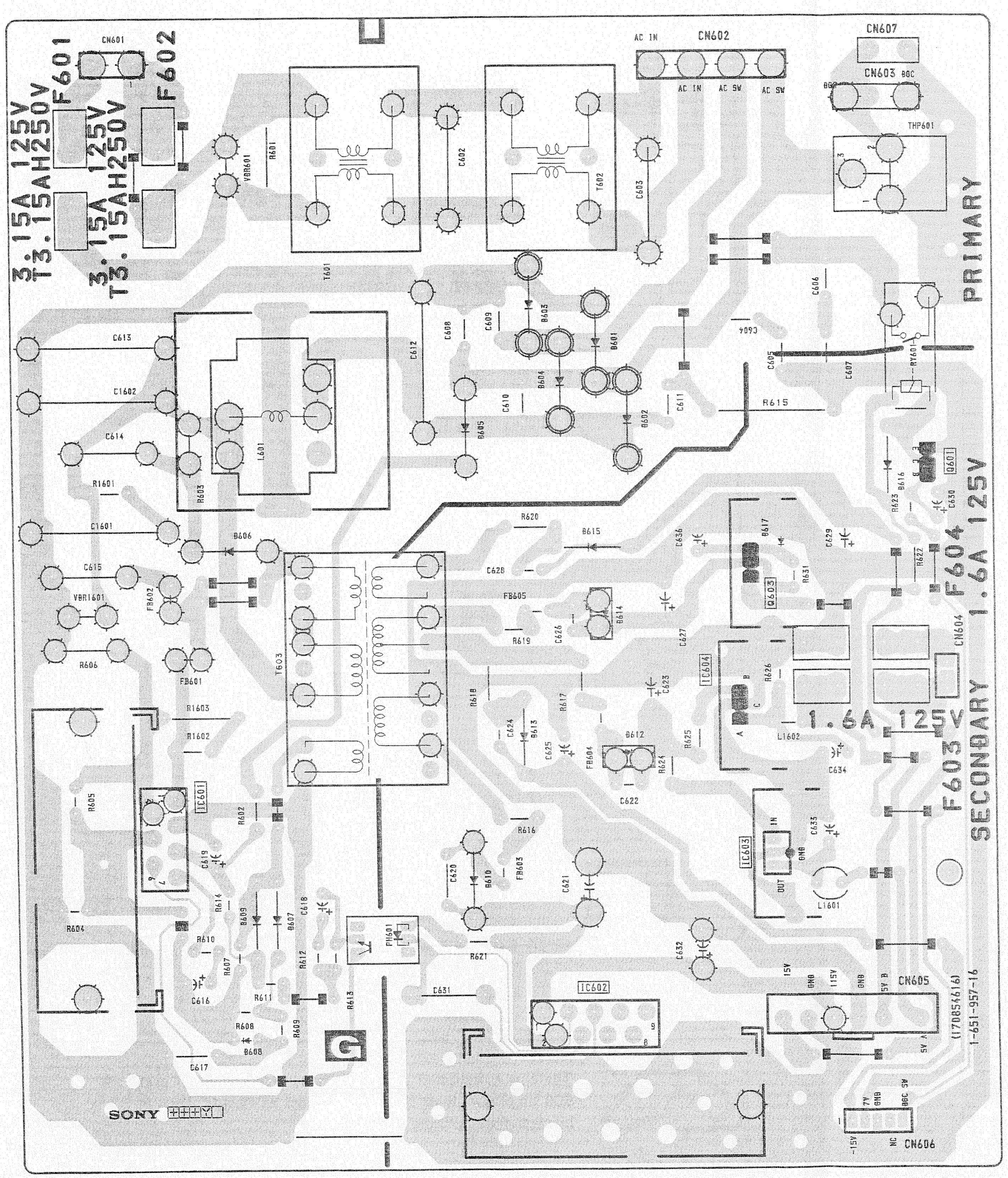
S601
7 AC IN
6
5 AC IN
4
3 AC OUT
2
1 AC OUT
CN608 7B4P WHT :VH
TO G BOARD CN602
J (POWER SW)



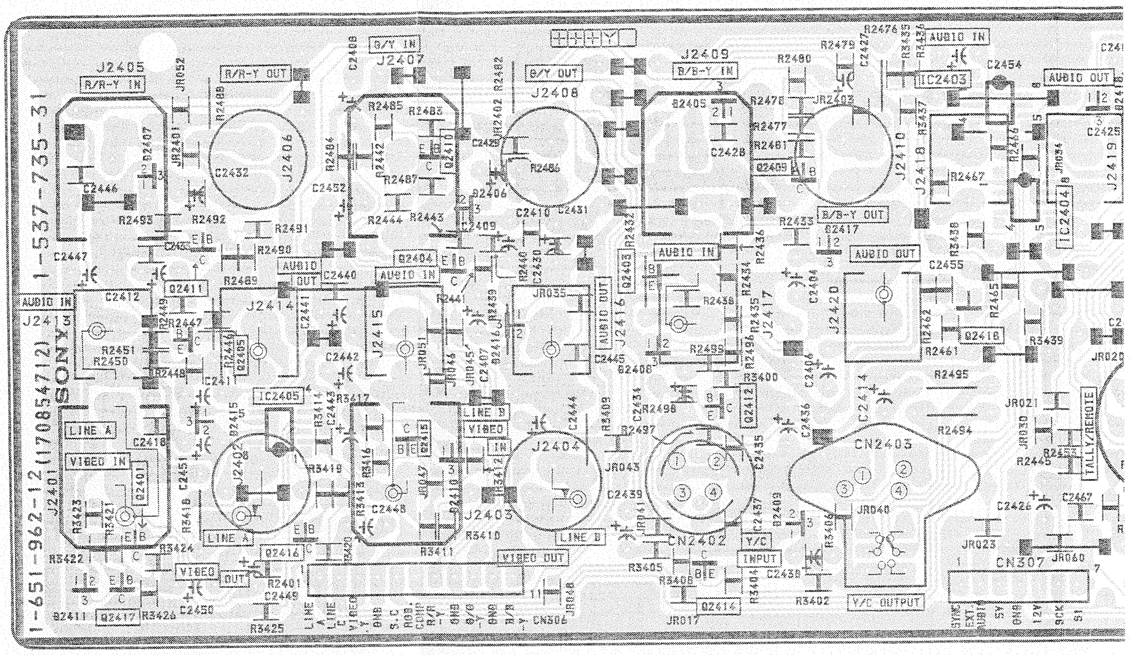
1 V OUT
R9
R7
R12
7 Ios
R8

G [POWER SUPPLY] **Q** [INPUT SIGNAL SELECT] **H** [CONTROL SWITCH] **J** [POWER SWITCH]

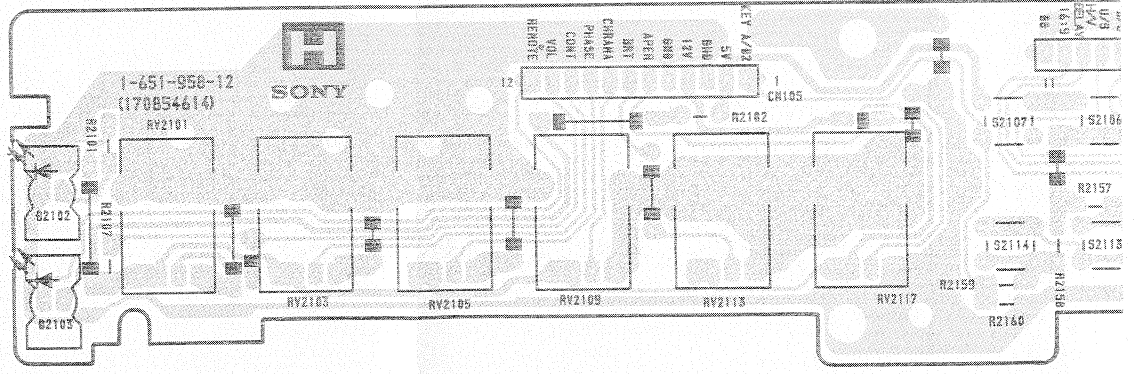
– G BOARD –

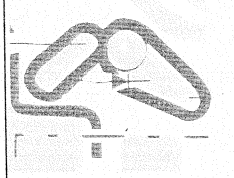

CN601
F601
F602
3.15A 125V
T3.15AH250V
3.15A 125V
T3.15AH250V
AC IN
CN602
CN607
CN603
THP601
PRIMARY
SECONDARY
F604
1.6A 125V
F603
1.6A 125V
T601
T602
T603
L601
IC601
IC602
IC603
IC604
PH601
RY601
CN604
CN605
CN606
1-651-957-16
(170854616)
SONY
G

– Q BOARD –


1-651-962-12 (170854712)
1-537-735-31
SONY
J2405
J2406
J2407
J2408
J2409
J2410
J2414
J2415
J2416
J2417
J2418
J2420
CN2402
CN2403
CN307
AUDIO IN
AUDIO OUT
VIDEO IN
VIDEO OUT
LINE A
LINE B
Y/C OUTPUT

– H BOARD –


1-651-958-12
(170854614)
SONY
H
CN105
RV2101
RV2103
RV2105
RV2109
RV2113
RV2117
S2107
S2114



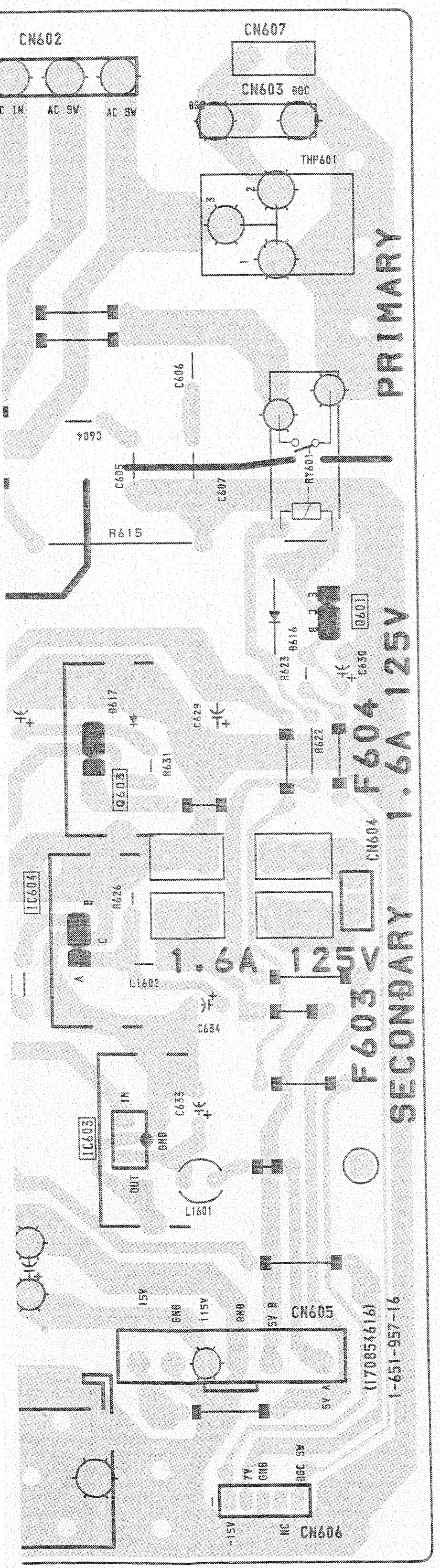
NOTE

The ci

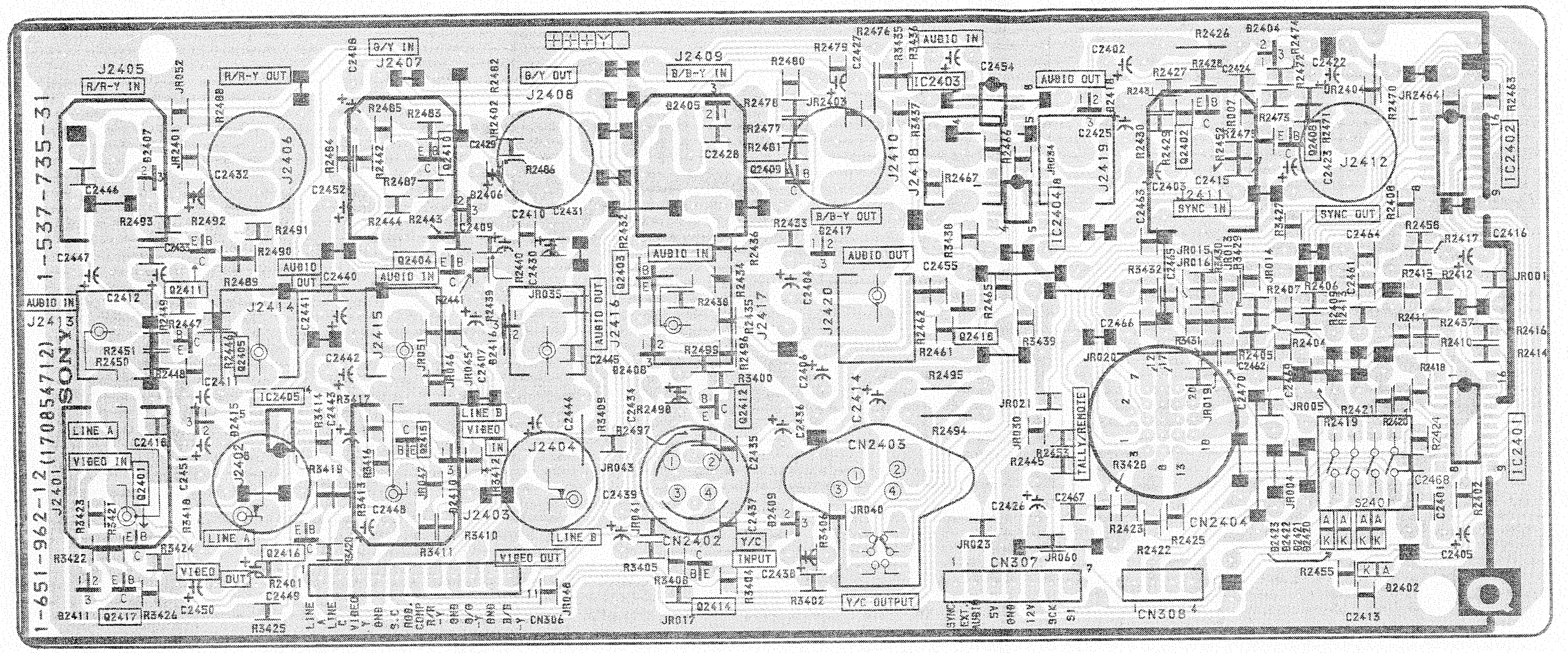
600 V

inspect

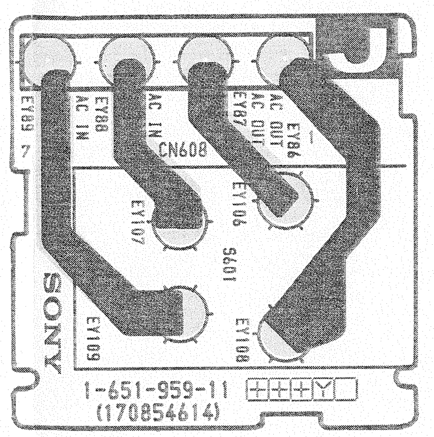
NTROL SWITCH] **J** [POWER SWITCH]


CN602
CN607
CN603
THP601
PRIMARY
F604 1.6A 125V
F603 1.6A 125V
SECONDARY
CN604
CN605
CN606
1-651-957-16
(170854616)

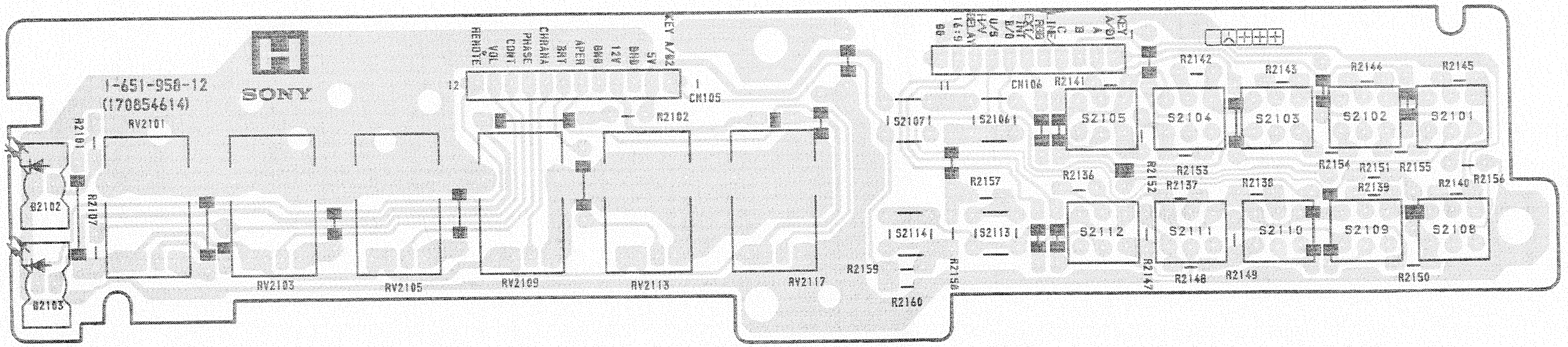
– Q BOARD –

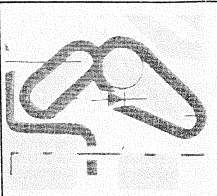

1-537-735-31
1-651-962-12 (170854712)
SONY
J2405
J2407
J2409
J2406
J2408
J2410
J2412
J2413
J2414
J2415
J2416
J2417
J2418
J2419
J2420
J2401
J2402
J2403
J2404
CN2402
CN2403
CN2404
CN307
CN308
CN306
AUDIO IN
AUDIO OUT
VIDEO IN
VIDEO OUT
LINE A
LINE B
SYNC IN
SYNC OUT
TALLY/REMOTE
Y/C INPUT
Y/C OUTPUT
Q

– J BOARD –


J
CN608
AC IN
AC OUT
SONY
1-651-959-11
(170854614)

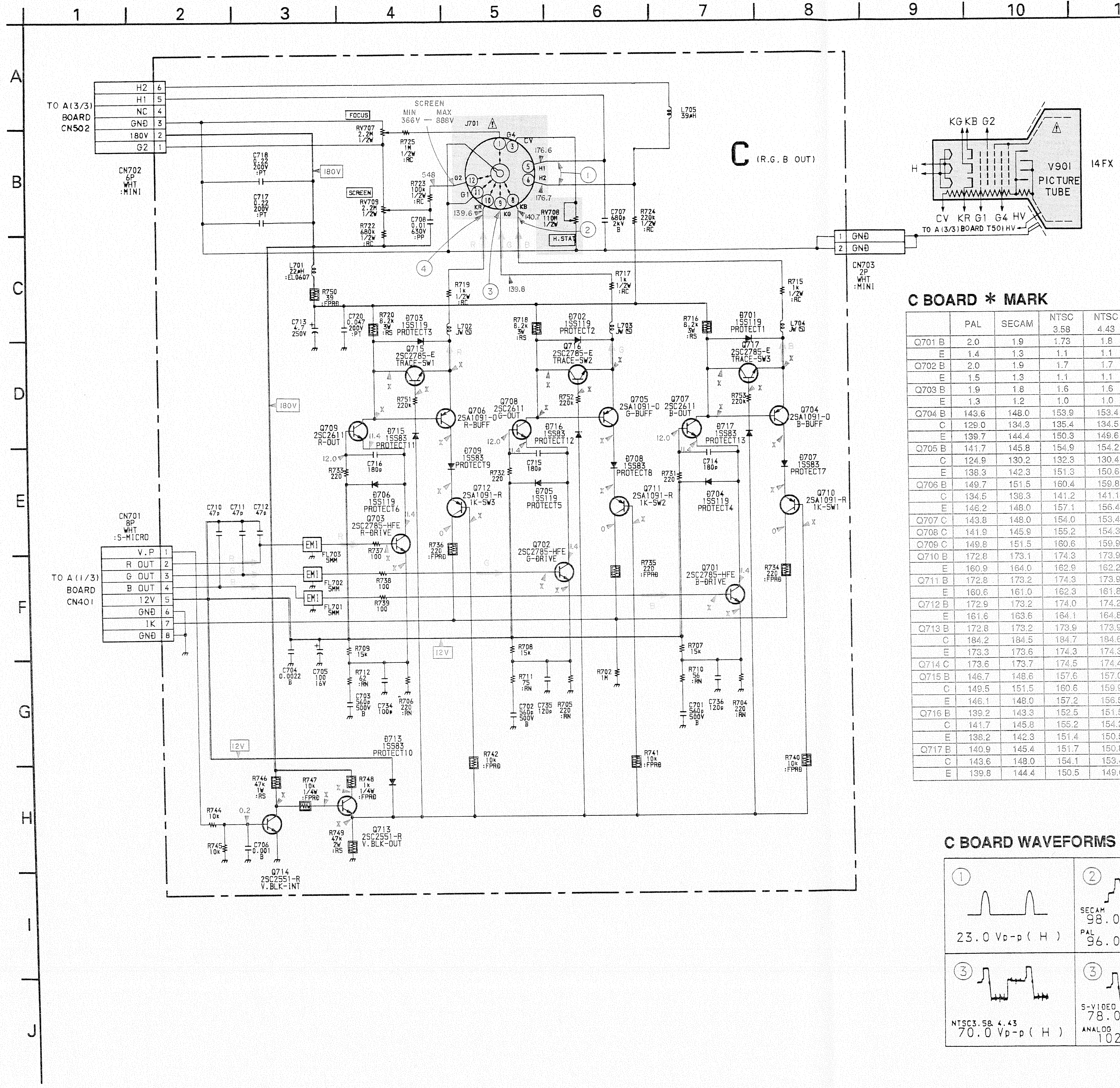
– H BOARD –


H
1-651-958-12
(170854614)
SONY
CN105
CN106
RV2101
RV2103
RV2105
RV2109
RV2113
RV2117
S2101
S2102
S2103
S2104
S2105
S2108
S2109
S2110
S2111
S2112



NOTE:
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

Schematic diagram
C board ➡


1
2
3
4
5
6
7
8
9
10
11
A
B
C
D
E
F
G
H
I
J
C (R.G.B OUT)
TO A(3/3) BOARD CN502
H2
H1
NC
GND
180V
G2
CN702 6P WHT :MINI
TO A(1/3) BOARD CN401
V.P
R OUT
G OUT
B OUT
12V
GND
IK
GND
CN701 8P WHT :S-MICRO
SCREEN MIN 366V — MAX 888V
FOCUS
SCREEN
RV707 2.2M 1/2W
RV709 2.2M 1/2W
RV708 110M 1/2W
H.STAT
J701
L705 39μH
CV
G4
G2
G1
KR
KG
KB
H1
H2
176.6
176.7
548
139.6
139.8
140.7
180V
12V
CN703 2P WHT :MINI
GND
KG KB G2
H
V901 PICTURE TUBE
14FX
CV KR G1 G4 HV
TO A(3/3) BOARD T501 HV
Q701 2SC2785-HFE B-DRIVE
Q702 2SC2785-HFE G-DRIVE
Q703 2SC2785-HFE R-DRIVE
Q704 2SA1091-O B-BUFF
Q705 2SA1091-O G-BUFF
Q706 2SA1091-O R-BUFF
Q707 2SC2611 B-OUT
Q708 2SC2611 G-OUT
Q709 2SC2611 R-OUT
Q710 2SA1091-R IK-SW1
Q711 2SA1091-R IK-SW2
Q712 2SA1091-R IK-SW3
Q713 2SC2551-R V.BLK-OUT
Q714 2SC2551-R V.BLK-INT
Q715 2SC2785-E TRACE-SW1
Q716 2SC2785-E TRACE-SW2
Q717 2SC2785-E TRACE-SW3
D701 1SS119 PROTECT1
D702 1SS119 PROTECT2
D703 1SS119 PROTECT3
D704 1SS119 PROTECT4
D705 1SS119 PROTECT5
D706 1SS119 PROTECT6
D707 1SS83 PROTECT7
D708 1SS83 PROTECT8
D709 1SS83 PROTECT9
D713 1SS83 PROTECT10
D715 1SS83 PROTECT11
D716 1SS83 PROTECT12
D717 1SS83 PROTECT13
FL701 5MM
FL702 5MM
FL703 5MM
EMI
① ② ③ ④

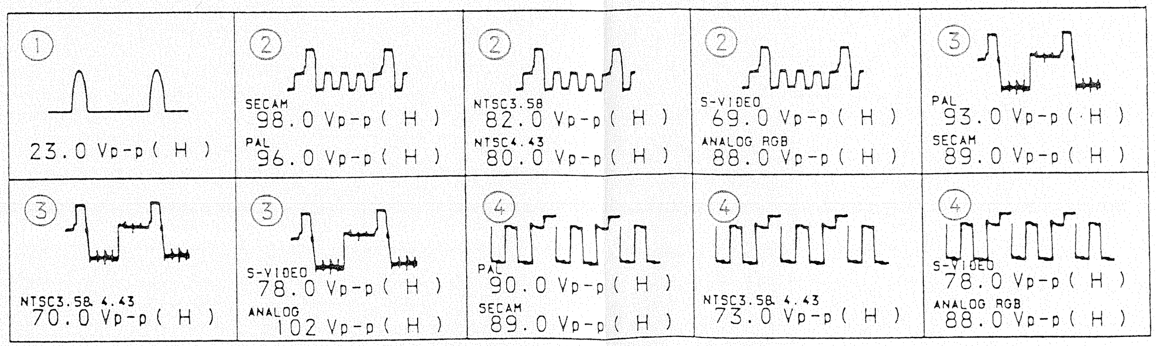
C BOARD * MARK

	PAL	SECAM	NTSC 3.58	NTSC 4.43	S-VIDEO	ANALOG RGB
Q701 B	2.0	1.9	1.73	1.8	1.8	2.0
E	1.4	1.3	1.1	1.1	1.2	1.4
Q702 B	2.0	1.9	1.7	1.7	1.8	2.0
E	1.5	1.3	1.1	1.1	1.2	1.4
Q703 B	1.9	1.8	1.6	1.6	1.8	1.9
E	1.3	1.2	1.0	1.0	1.2	1.3
Q704 B	143.6	148.0	153.9	153.4	144.9	143.8
C	129.0	134.3	135.4	134.5	31.2	111.5
E	139.7	144.4	150.3	149.6	140.4	140.1
Q705 B	141.7	145.8	154.9	154.2	145.0	141.8
C	124.9	130.2	132.3	130.4	60.4	106.6
E	138.3	142.3	151.3	150.6	140.7	138.5
Q706 B	149.7	151.5	160.4	159.8	144.9	148.6
C	134.5	138.3	141.2	141.1	103.2	114.7
E	146.2	148.0	157.1	156.4	140.8	145.0
Q707 C	143.8	148.0	154.0	153.4	144.9	143.7
Q708 C	141.9	145.9	155.2	154.3	145.0	141.8
Q709 C	149.8	151.5	160.6	159.9	144.9	148.5
Q710 B	172.8	173.1	174.3	173.9	167.0	173.5
E	160.9	164.0	162.9	162.2	154.0	161.2
Q711 B	172.8	173.2	174.3	173.9	167.0	173.5
E	160.6	161.0	162.3	161.8	154.1	161.3
Q712 B	172.9	173.2	174.0	174.2	167.0	173.5
E	161.6	163.6	164.1	164.8	154.5	161.4
Q713 B	172.8	173.2	173.9	173.9	166.8	173.5
C	184.2	184.5	184.7	184.6	176.6	183.8
E	173.3	173.6	174.3	174.3	167.2	173.9
Q714 C	173.6	173.7	174.5	174.4	167.4	174.1
Q715 B	146.7	148.6	157.6	157.0	140.3	145.7
C	149.5	151.5	160.6	159.9	144.9	148.5
E	146.1	148.0	157.2	156.5	140.7	145.0
Q716 B	139.2	143.3	152.5	151.5	140.7	139.4
C	141.7	145.8	155.2	154.2	145.1	141.8
E	138.2	142.3	151.4	150.5	140.6	138.4
Q717 B	140.9	145.4	151.7	150.8	140.6	141.2
C	143.6	148.0	154.1	153.4	144.9	143.8
E	139.8	144.4	150.5	149.6	140.4	140.0

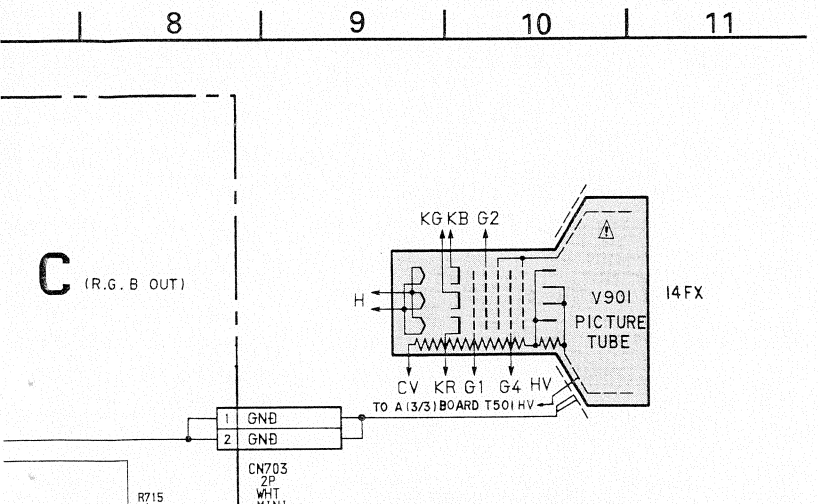
C BOARD

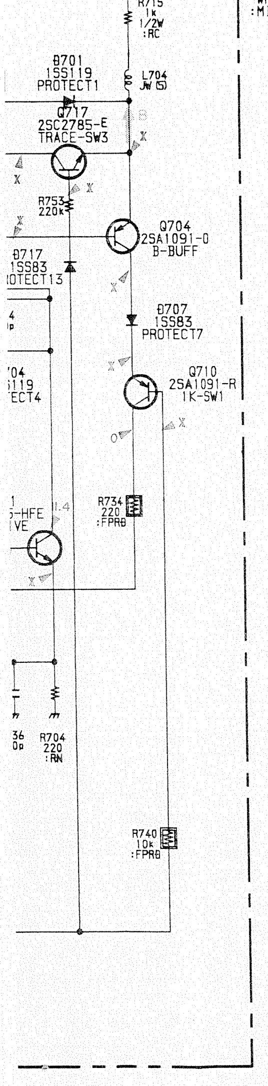
Q701	B DRIVE
Q702	G DRIVE
Q703	R DRIVE
Q704	B BUFFER
Q705	G BUFFER
Q706	R BUFFER
Q707	B OUT
Q708	G OUT
Q709	R OUT
Q710	IK SW 1
Q711	IK SW 2
Q712	IK SW 3
Q713	V. BLK OUT
Q714	V. BLK INT
Q715	TRACE SW 1
Q716	TRACE SW 2
Q717	TRACE SW 3
D701	PROTECT 1
D702	PROTECT 2
D703	PROTECT 3
D704	PROTECT 4
D705	PROTECT 5
D706	PROTECT 6
D707	PROTECT 7
D708	PROTECT 8
D709	PROTECT 9
D713	PROTECT 10
D715	PROTECT 11
D716	PROTECT 12
D717	PROTECT 13

C BOARD WAVEFORMS



-C


8
9
10
11
C (R.G.B OUT)
KG KB G2
H
V901
PICTURE TUBE
14FX
CV KR G1 G4 HV
TO A13/31 BOARD T501 HV
1 GND
2 GND
CN703
2P
WHT
:MINI


R715
1k
1/2W
:RC
D701
1SS119
PROTECT1
L704
Q717
2SC2785-E
TRACE-SW3
R753
220k
Q704
2SA1091-O
B-BUFF
D717
1SS83
PROTECT13
D707
1SS83
PROTECT7
Q710
2SA1091-R
IK-SW1
R734
220
:FPRB
R704
220
:RN
R740
10k
:FPRB

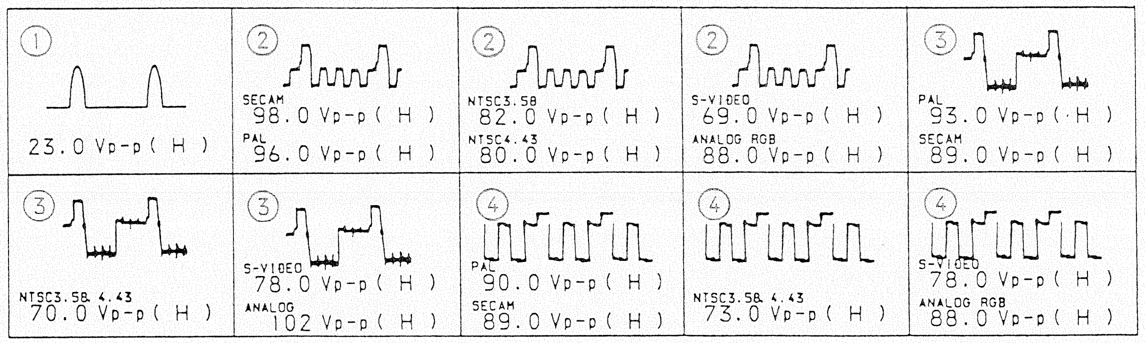
C BOARD ✱ MARK

	PAL	SECAM	NTSC 3.58	NTSC 4.43	S-VIDEO	ANALOG RGB
Q701 B	2.0	1.9	1.73	1.8	1.8	2.0
E	1.4	1.3	1.1	1.1	1.2	1.4
Q702 B	2.0	1.9	1.7	1.7	1.8	2.0
E	1.5	1.3	1.1	1.1	1.2	1.4
Q703 B	1.9	1.8	1.6	1.6	1.8	1.9
E	1.3	1.2	1.0	1.0	1.2	1.3
Q704 B	143.6	148.0	153.9	153.4	144.9	143.8
C	129.0	134.3	135.4	134.5	31.2	111.5
E	139.7	144.4	150.3	149.6	140.4	140.1
Q705 B	141.7	145.8	154.9	154.2	145.0	141.8
C	124.9	130.2	132.3	130.4	60.4	106.6
E	138.3	142.3	151.3	150.6	140.7	138.5
Q706 B	149.7	151.5	160.4	159.8	144.9	148.6
C	134.5	138.3	141.2	141.1	103.2	114.7
E	146.2	148.0	157.1	156.4	140.8	145.0
Q707 C	143.8	148.0	154.0	153.4	144.9	143.7
Q708 C	141.9	145.9	155.2	154.3	145.0	141.8
Q709 C	149.8	151.5	160.6	159.9	144.9	148.5
Q710 B	172.8	173.1	174.3	173.9	167.0	173.5
E	160.9	164.0	162.9	162.2	154.0	161.2
Q711 B	172.8	173.2	174.3	173.9	167.0	173.5
E	160.6	161.0	162.3	161.8	154.1	161.3
Q712 B	172.9	173.2	174.0	174.2	167.0	173.5
E	161.6	163.6	164.1	164.8	154.5	161.4
Q713 B	172.8	173.2	173.9	173.9	166.8	173.5
C	184.2	184.5	184.7	184.6	176.6	183.8
E	173.3	173.6	174.3	174.3	167.2	173.9
Q714 C	173.6	173.7	174.5	174.4	167.4	174.1
Q715 B	146.7	148.6	157.6	157.0	140.3	145.7
C	149.5	151.5	160.6	159.9	144.9	148.5
E	146.1	148.0	157.2	156.5	140.7	145.0
Q716 B	139.2	143.3	152.5	151.5	140.7	139.4
C	141.7	145.8	155.2	154.2	145.1	141.8
E	138.2	142.3	151.4	150.5	140.6	138.4
Q717 B	140.9	145.4	151.7	150.8	140.6	141.2
C	143.6	148.0	154.1	153.4	144.9	143.8
E	139.8	144.4	150.5	149.6	140.4	140.0

C BOARD

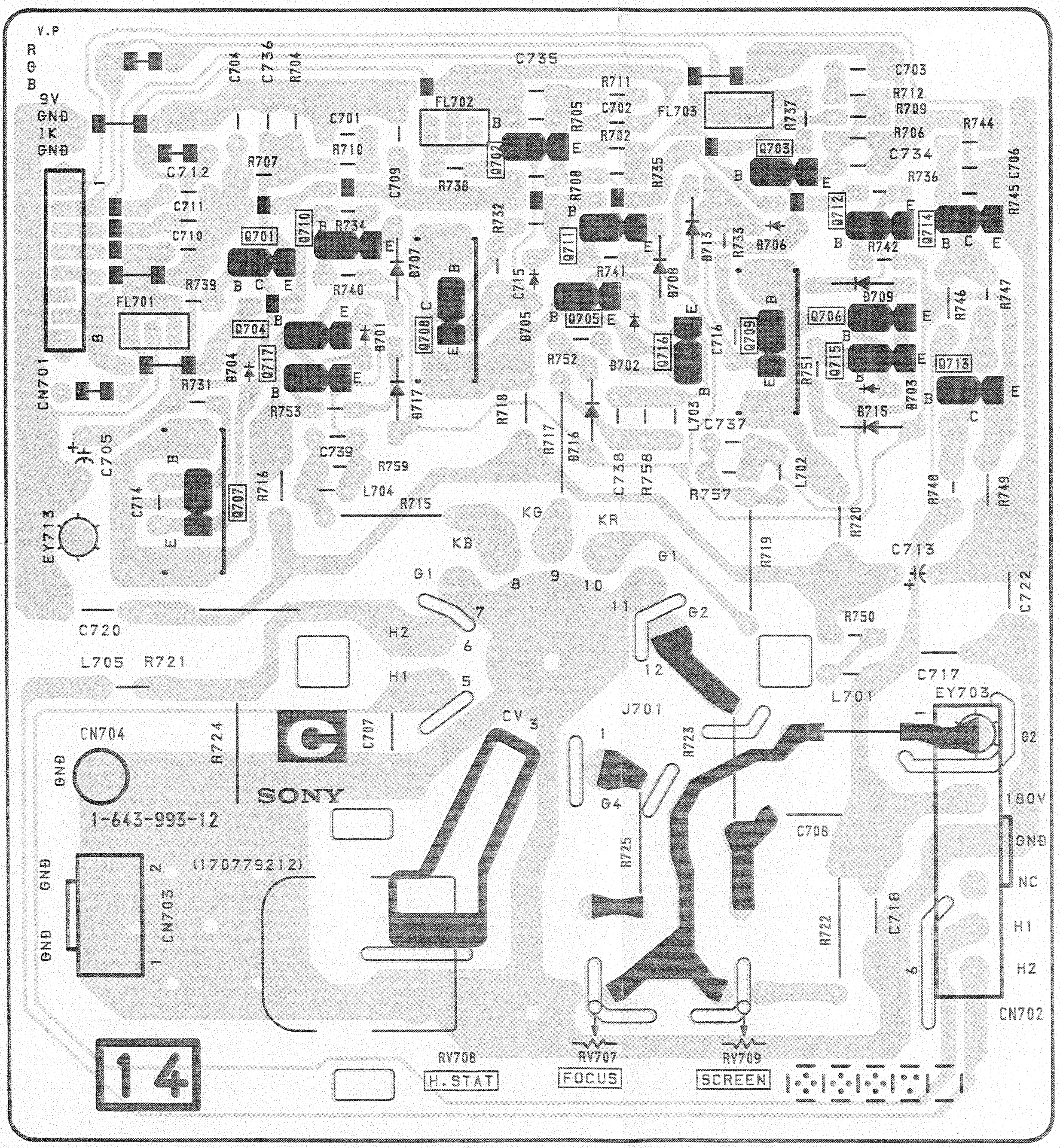
Q701	B DRIVE
Q702	G DRIVE
Q703	R DRIVE
Q704	B BUFFER
Q705	G BUFFER
Q706	R BUFFER
Q707	B OUT
Q708	G OUT
Q709	R OUT
Q710	IK SW 1
Q711	IK SW 2
Q712	IK SW 3
Q713	V. BLK OUT
Q714	V. BLK INT
Q715	TRACE SW 1
Q716	TRACE SW 2
Q717	TRACE SW 3
D701	PROTECT 1
D702	PROTECT 2
D703	PROTECT 3
D704	PROTECT 4
D705	PROTECT 5
D706	PROTECT 6
D707	PROTECT 7
D708	PROTECT 8
D709	PROTECT 9
D713	PROTECT 10
D715	PROTECT 11
D716	PROTECT 12
D717	PROTECT 13

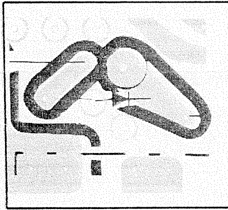
C BOARD WAVEFORMS



C [R. G. B OUT]

- C BOARD -


V.P
R
G
B
9V
GND
IK
GND
CN701
CN704
GND
CN703
CN702
180V
GND
NC
H1
H2
G2
EY703
EY713
KG
KR
KB
G1
G4
CV
J701
C
SONY
1-643-993-12
(170779212)
14
RV708
H.STAT
RV707
FOCUS
RV709
SCREEN

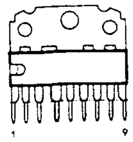


NOTE:

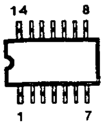
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

6-5. SEMICONDUCTORS

AN5265

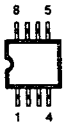


BA10324AF
LM324DR
MC14024BF
MC14066BF
MC14584BF
MC74HC86F



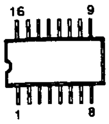
(TOP VIEW)

BA7655AF-E2
CXA1211M
LM358D
LM358DR
MM1111XF
MM1113XFF
MM1114XFF
NJM2245M
XRA10393F
XRA4558F



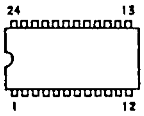
(TOP VIEW)

BU4053BCF
MC14052BF
MC14094BF
MC14538BF



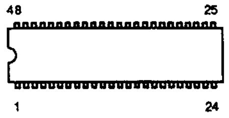
(TOP VIEW)

CXA1214P



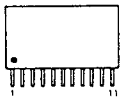
(TOP VIEW)

CXA1478S

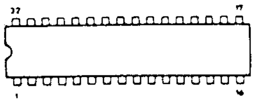


(TOP VIEW)

H8D7248

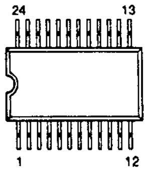


M51279FP



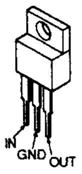
(TOP VIEW)

M62358FP-E1

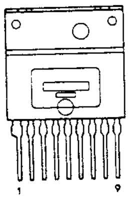


(TOP VIEW)

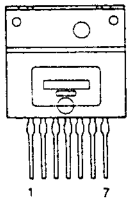
NJM78M05FA



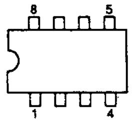
STR-S3115



STR-M6523

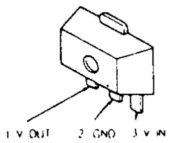


ST24C02CB1

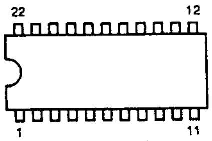


(TOP VIEW)

S-80743AL-A7

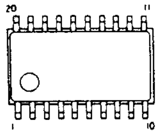

1 V OUT
2 GND
3 V IN

UPC1377C

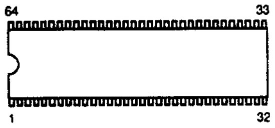


(TOP VIEW)

UPD6451AGT-632-E2

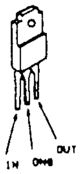


UPD78013YCW-Y05

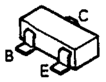


(TOP VIEW)

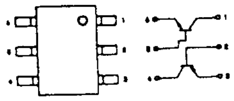
XRA17812T



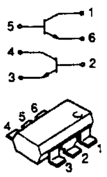
DTA144EK
DTC124EK
DTC144EK
2SA1037K
2SA1162-G
2SC1623-L5L6
2SC2412K



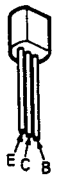
IMT1US



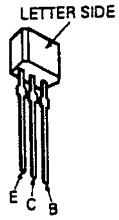
IMX1


5
1
6
4
2
3
4
5
6
1
2
3

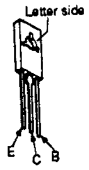
2SA1091
2SC2551



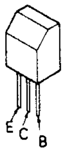
2SA1175-HFE
2SC2785-HFE


LETTER SIDE
E
C
B

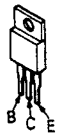
2SA1220A
2SC2611
2SC2688
2SC2690A-Q


Letter side
E
C
B

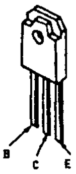
2SC2958-L
2SD774-3
2SD774-34



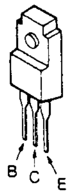
2SC3851
2SD1134-C



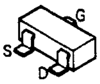
2SD1397-CA



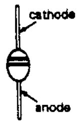
2SD2396K



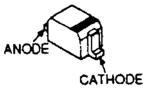
2SK94



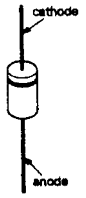
DSA3A4
ERC38-06
V19E
V19G


cathode
anode

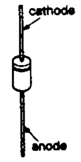
DTZ11B
DTZ13C
DTZ5.6B
DTZ6.2
MA110
RD4.7SB
1SV230-TPH3
1SV232-TPH3


ANODE
CATHODE

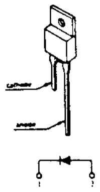
EL1Z
RGP02-17EL-6433
RGP10G
RGP10GPKG23
UF5406
1SS83
10E-2


cathode
anode

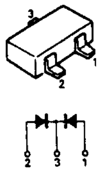
ERC06-15S
RGP15J-6040
RH-1A
RU-3AM
SIB01-06


cathode
anode

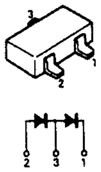
FML-G12S


cathode
anode

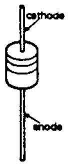
MA151WK
1SS184



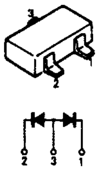
MA157
1SS226



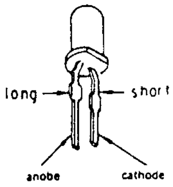
RD16ESB3
1SS119


cathode
anode

1S2835
1S2836



TLG123A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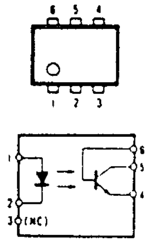
6
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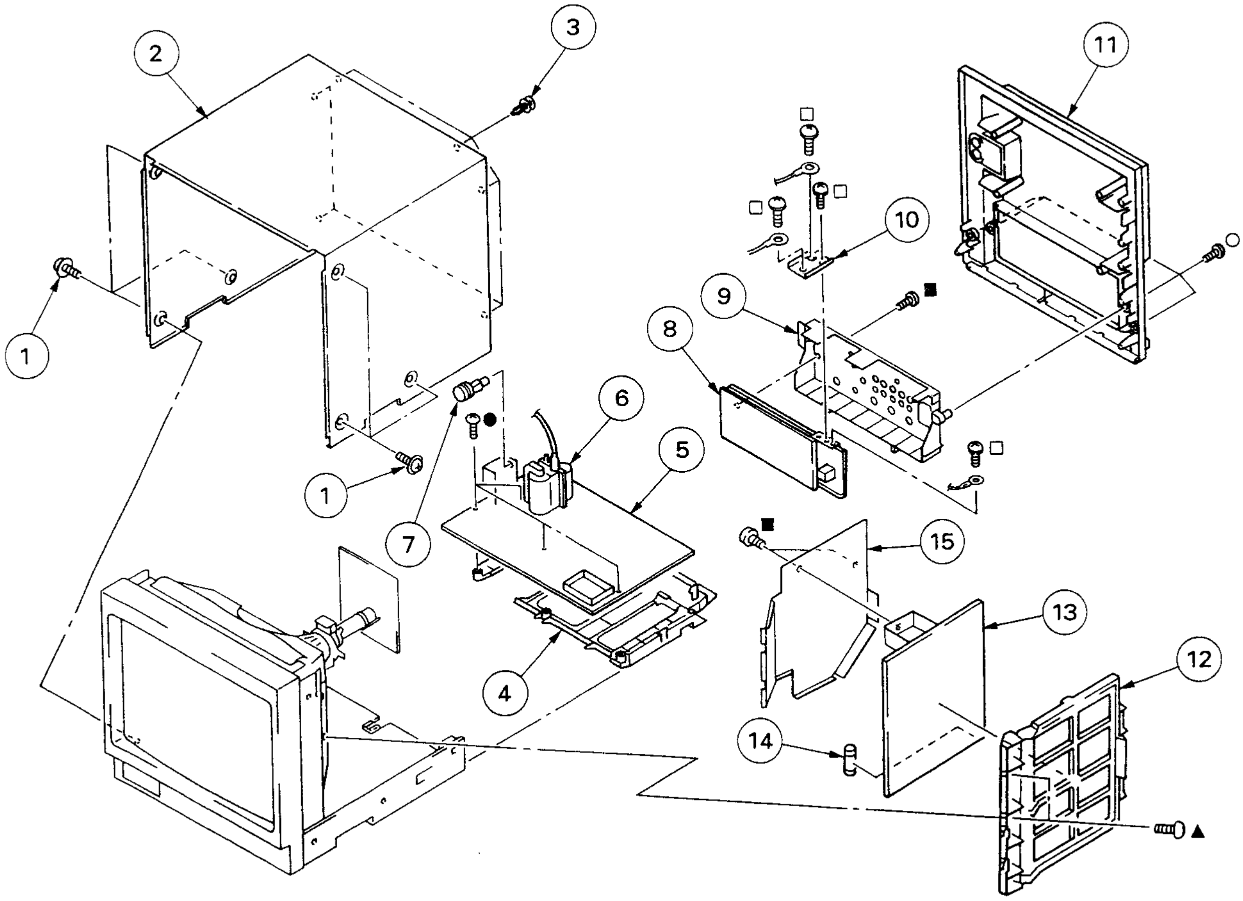
SECTION 7
EXPLODED VIEWS

NOTE:
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked " ★ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

7-1. CHASSIS

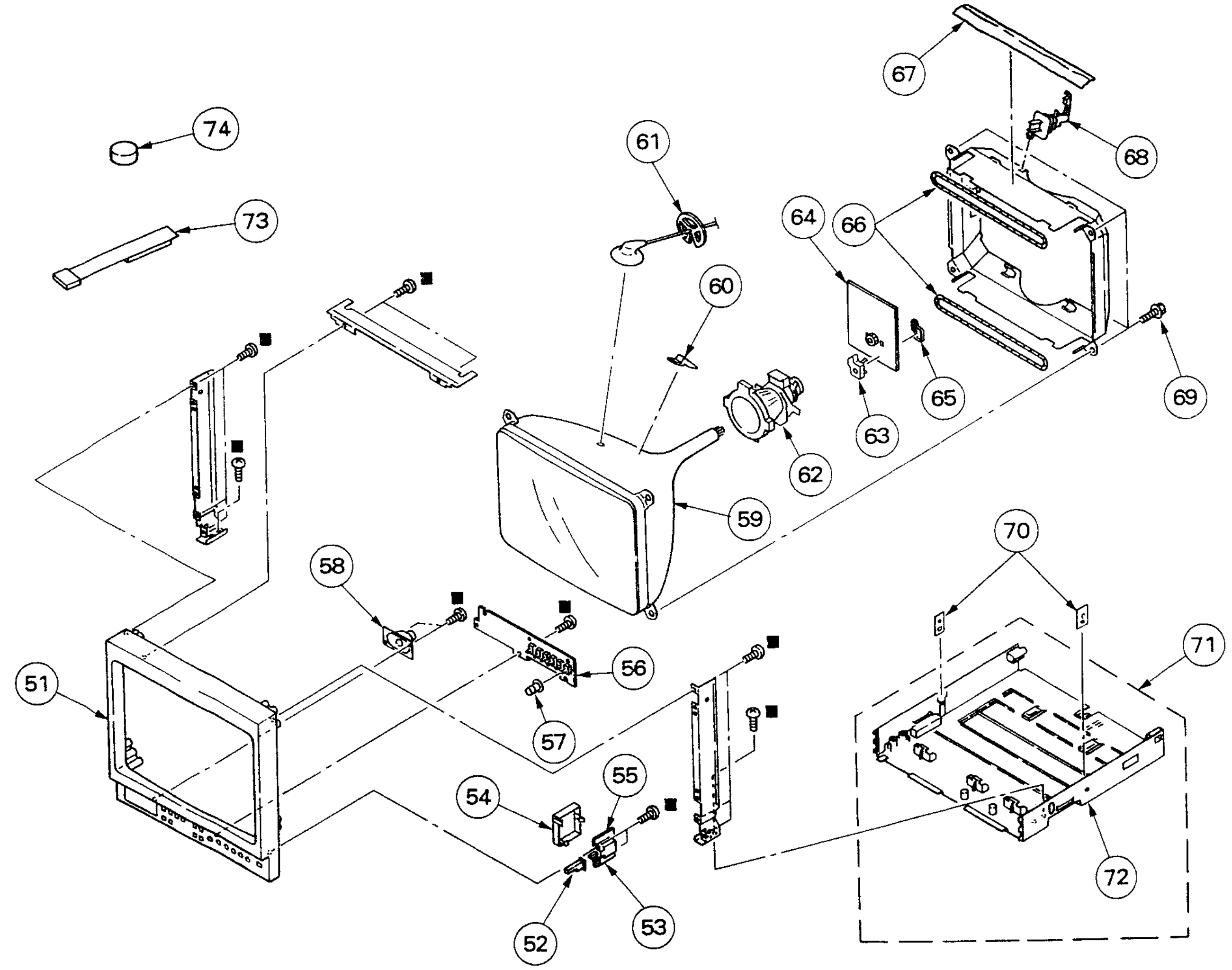
●	: +BVTP 3×12	7-685-648-79
■	: +BVTP 3×8	7-685-646-79
▲	: +BVTT 4×8	7-682-561-04
○	: +BVTP 4×16	7-685-663-79
□	: +PS 4×8	7-682-661-09



REF.NO.	PART NO.	DESCRIPTION	REMARK
1	4-847-802-11	SCREW (OS), CASE, CLAW	
2	X-4032-539-2	COVER ASSY, TOP	
3	4-391-825-01	RIVET, NYLON	
4	*4-043-690-01	BRACKET, MAIN	
5	*A-1297-194-B	A BOARD, COMPLETE	
6	⚠ 1-453-163-11	TRANSFORMER ASSY, FLYBACK	
7	4-386-618-01	RIVET, T TYPE	
8	1-537-735-31	TERMINAL BOARD ASSY, I/O (C) (Q BOARD)	
9	*4-043-688-41	PANEL, CONNECTOR	
10	*4-043-678-01	TERMINAL, GROUND	
11	4-043-687-01	COVER, REAR	
12	*4-043-689-01	BRACKET, G	
13	*A-1316-224-A	G BOARD, COMPLETE	
14	⚠ 1-576-230-11	FUSE (H.B.C.) (3.15A/250V)	
15	*4-047-436-01	SHIELD, G PC BOARD	

7-2. PICTURE TUBE

■ : +BVTP 3×8 7-685-646-79



REF.NO.	PART NO.	DESCRIPTION	REMARK
51	X-4032-646-2	BEZEL ASSY	
52	4-043-683-01	BUTTOM, POWER SWITCH	
53	⚠.1-692-921-11	SWITCH, PUSH (A.C. POWER)	
54	4-043-681-01	COVER, AC SWITCH	
55	*A-1388-166-A	J BOARD, COMPLETE	
56	*A-1371-972-B	H BOARD, COMPLETE	
57	X-4030-162-3	KNOB ASSY, CONTROL	
58	1-544-063-12	SPEAKER	
59	⚠.8-736-255-05	PICTURE TUBE (14FX)	
60	3-703-961-01	SPACER, DY	
61	*3-704-372-01	HOLDER, HV CABLE	
62	⚠.8-451-329-12	DEFLECTION YOKE (Y14FZAM)	
63	*4-374-912-01	COVER (MAIN), CV VOL	
64	*A-1331-299-A	C BOARD, COMPLETE	
65	*4-374-913-01	COVER (REAR LID), CV VOL	
66	⚠.1-426-442-21	COIL, DEMAGNETIZATION	
67	4-391-833-01	CLOTH, PROTECTION	
68	4-033-681-01	HOLDER, LEAD	
69	4-365-808-01	SCREW (5), TAPPING	
70	4-042-608-01	NUT, PLATE	
71	X-4031-711-1	CABINET ASSY, BOTTOM	72
72	4-391-840-04	CABINET, BOTTOM	
73	X-4309-608-0	PERMALLOY ASSY, CONVERGENCE	
74	1-452-032-00	MAGNET,DISC	

SECTION 8
ELECTRICAL PARTS LIST

NOTE:

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

RESISTORS

- All resistors are in ohms
- F : nonflammable

When indicating parts by reference number, please include the board name.

CAPACITORS

- MF : μF, PF : μμF

COILS

- MMH : mH, UH : μH

- The components identified by ⧓ in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.
- ✱ : Selected to yield optimum performance.
- There are some cases the reference number on one board overlaps on the other board. Therefore, when ordering parts by the reference number, please

REF.NO.	PART NO.	DESCRIPTION			REMARK
	*A-1297-194-B	A BOARD, COMPLETE ******************			
	1-540-044-11	SOCKET, IC			
	*4-030-359-01	HEAT SINK, H. PIN			
	*4-043-154-01	HOLDER, IC			
	4-363-414-00	SPACER, MICA			
	4-382-854-11	SCREW (M3X10), P, SW (+)			
		<FILTER>			
BPF400	1-236-363-11	FILTER, BAND PASS			
		<CAPACITOR>			
C105	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C106	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C114	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C115	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C116	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C117	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C118	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C119	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C121	1-163-237-11	CERAMIC CHIP	27PF	5%	50V
C123	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C124	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C132	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V
C133	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C134	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C135	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C136	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C141	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V
C142	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C143	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C144	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C145	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C154	1-163-037-11	CERAMIC CHIP	0.022MF	10%	25V
C155	1-163-023-00	CERAMIC CHIP	0.015MF	10%	50V
C156	1-163-019-00	CERAMIC CHIP	0.0068MF	10%	50V
C157	1-163-019-00	CERAMIC CHIP	0.0068MF	10%	50V
C158	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V
C159	1-163-037-11	CERAMIC CHIP	0.022MF	10%	25V
C161	1-104-664-11	ELECT	47MF	20%	16V
C162	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V
C164	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C165	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C166	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C167	1-124-472-11	ELECT	470MF	20%	10V
C168	1-124-472-11	ELECT	470MF	20%	10V
C169	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C171	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C200	1-126-963-11	ELECT	4.7MF	20%	50V
C201	1-106-383-00	MYLAR	0.047MF	10%	100V
C202	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C203	1-126-963-11	ELECT	4.7MF	20%	50V
C204	1-124-907-11	ELECT	10MF	20%	50V
C205	1-126-942-61	ELECT	1000MF	20%	16V
C206	1-128-526-11	ELECT	100MF	20%	25V
C207	1-124-478-11	ELECT	100MF	20%	25V
C208	1-124-907-11	ELECT	10MF	20%	50V
C209	1-126-963-11	ELECT	4.7MF	20%	50V
C300	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C301	1-163-086-00	CERAMIC CHIP	3PF	0.25PF	50V
C302	1-163-086-00	CERAMIC CHIP	3PF	0.25PF	50V
C304	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C305	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C306	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C309	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C310	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C311	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V
C312	1-124-925-11	ELECT	2.2MF	20%	50V
C313	1-163-145-00	CERAMIC CHIP	0.0015MF	5%	50V
C314	1-163-249-11	CERAMIC CHIP	82PF	5%	50V
C315	1-124-907-11	ELECT	10MF	20%	50V
C316	1-124-477-11	ELECT	47MF	20%	25V
C317	1-163-097-00	CERAMIC CHIP	15PF	5%	50V
C318	1-124-907-11	ELECT	10MF	20%	50V
C319	1-163-222-11	CERAMIC CHIP	5PF	0.25PF	50V
C320	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C322	1-163-119-00	CERAMIC CHIP	120PF	5%	50V
C323	1-163-097-00	CERAMIC CHIP	15PF	5%	50V
C324	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C325	1-124-907-11	ELECT	10MF	20%	50V
C326	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C327	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C328	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C329	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C330	1-163-243-11	CERAMIC CHIP	47PF	5%	50V
C331	1-163-097-00	CERAMIC CHIP	15PF	5%	50V
C332	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C333	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C334	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V
C335	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V
C336	1-124-477-11	ELECT	47MF	20%	25V
C337	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C338	1-163-119-00	CERAMIC CHIP	120PF	5%	50V
C339	1-163-097-00	CERAMIC CHIP	15PF	5%	50V
C340	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C341	1-163-119-00	CERAMIC CHIP	120PF	5%	50V
C342	1-163-018-00	CERAMIC CHIP	0.0056MF	10%	50V
C343	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C344	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V
C345	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V

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REF.NO.	PART NO.	DESCRIPTION			REMARK
C346	1-124-903-11	ELECT	1MF	20%	50V
C347	1-163-243-11	CERAMIC CHIP	47PF	5%	50V
C348	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C349	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V
C350	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V
C351	1-124-477-11	ELECT	47MF	20%	25V
C352	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C353	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C354	1-163-121-00	CERAMIC CHIP	150PF	5%	50V
C355	1-124-903-11	ELECT	1MF	20%	50V
C356	1-126-963-11	ELECT	4.7MF	20%	50V
C358	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C359	1-124-477-11	ELECT	47MF	20%	25V
C360	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C361	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C362	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C363	1-163-099-00	CERAMIC CHIP	18PF	5%	50V
C364	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C365	1-106-343-00	MYLAR	0.001MF	10%	100V
C366	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C367	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C368	1-124-907-11	ELECT	10MF	20%	50V
C369	1-164-298-11	CERAMIC CHIP	0.15MF	10%	25V
C370	1-124-477-11	ELECT	47MF	20%	25V
C371	1-124-477-11	ELECT	47MF	20%	25V
C372	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C373	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V
C374	1-124-903-11	ELECT	1MF	20%	50V
C375	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C376	1-124-902-00	ELECT	0.47MF	20%	50V
C377	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V
C378	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V
C379	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C380	1-126-942-61	ELECT	1000MF	20%	16V
C381	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C382	1-163-243-11	CERAMIC CHIP	47PF	5%	50V
C383	1-124-477-11	ELECT	47MF	20%	25V
C384	1-163-249-11	CERAMIC CHIP	82PF	5%	50V
C385	1-124-477-11	ELECT	47MF	20%	25V
C386	1-124-907-11	ELECT	10MF	20%	50V
C387	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V
C388	1-124-907-11	ELECT	10MF	20%	50V
C389	1-124-477-11	ELECT	47MF	20%	25V
C390	1-163-243-11	CERAMIC CHIP	47PF	5%	50V
C391	1-124-477-11	ELECT	47MF	20%	25V
C392	1-164-298-11	CERAMIC CHIP	0.15MF	10%	25V
C393	1-164-298-11	CERAMIC CHIP	0.15MF	10%	25V
C394	1-124-477-11	ELECT	47MF	20%	25V
C395	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C396	1-164-299-11	CERAMIC CHIP	0.22MF	10%	25V
C397	1-124-477-11	ELECT	47MF	20%	25V
C398	1-124-477-11	ELECT	47MF	20%	25V
C399	1-124-477-11	ELECT	47MF	20%	25V
C400	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C401	1-164-346-11	CERAMIC CHIP	1MF		16V
C402	1-124-910-11	ELECT	47MF	20%	50V
C403	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C406	1-124-916-11	ELECT	22MF	20%	50V
C407	1-124-477-11	ELECT	47MF	20%	25V
C408	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C409	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C410	1-124-916-11	ELECT	22MF	20%	50V
C411	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C414	1-163-031-11	CERAMIC CHIP	0.01MF		50V

REF.NO.	PART NO.	DESCRIPTION			REMARK
C415	1-124-907-11	ELECT	10MF	20%	50V
C416	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C417	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C418	1-164-182-11	CERAMIC CHIP	0.0033MF	10%	50V
C419	1-124-472-11	ELECT	470MF	20%	10V
C420	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V
C421	1-164-222-11	CERAMIC CHIP	0.22MF		25V
C422	1-124-903-11	ELECT	1MF	20%	50V
C423	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V
C424	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V
C426	1-163-243-11	CERAMIC CHIP	47PF	5%	50V
C427	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C428	1-124-119-00	ELECT	330MF	20%	16V
C429	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C430	1-124-119-00	ELECT	330MF	20%	16V
C431	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C432	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C433	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C434	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C435	1-163-089-00	CERAMIC CHIP	6PF	0.25PF	50V
C436	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C437	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C438	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V
C439	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V
C440	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C441	1-126-962-11	ELECT	3.3MF	20%	50V
C442	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V
C443	1-163-243-11	CERAMIC CHIP	47PF	5%	50V
C444	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C445	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V
C446	1-163-089-00	CERAMIC CHIP	6PF	0.25PF	50V
C448	1-163-243-11	CERAMIC CHIP	47PF	5%	50V
C449	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C450	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V
C451	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C453	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C454	1-163-243-11	CERAMIC CHIP	47PF	5%	50V
C456	1-163-089-00	CERAMIC CHIP	6PF	0.25PF	50V
C457	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C458	1-163-249-11	CERAMIC CHIP	82PF	5%	50V
C459	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C460	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C461	1-163-119-00	CERAMIC CHIP	120PF	5%	50V
C462	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C463	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C464	1-164-299-11	CERAMIC CHIP	0.22MF	10%	25V
C465	1-163-097-00	CERAMIC CHIP	15PF	5%	50V
C466	1-163-119-00	CERAMIC CHIP	120PF	5%	50V
C467	1-163-119-00	CERAMIC CHIP	120PF	5%	50V
C469	1-163-037-11	CERAMIC CHIP	0.022MF	10%	25V
C470	1-163-243-11	CERAMIC CHIP	47PF	5%	50V
C471	1-163-105-00	CERAMIC CHIP	33PF	5%	50V
C472	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C473	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C475	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C476	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C477	1-164-299-11	CERAMIC CHIP	0.22MF	10%	25V
C478	1-124-907-11	ELECT	10MF	20%	50V
C479	1-163-121-00	CERAMIC CHIP	150PF	5%	50V
C482	1-124-472-11	ELECT	470MF	20%	10V
C483	1-163-249-11	CERAMIC CHIP	82PF	5%	50V
C484	1-163-113-00	CERAMIC CHIP	68PF	5%	50V
C485	1-163-113-00	CERAMIC CHIP	68PF	5%	50V

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION			REMARK
C486	1-163-249-11	CERAMIC CHIP	82PF	5%	50V
C487	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C488	1-163-097-00	CERAMIC CHIP	15PF	5%	50V
C490	1-164-336-11	CERAMIC CHIP	0.33MF		25V
C491	1-164-336-11	CERAMIC CHIP	0.33MF		25V
C492	1-164-336-11	CERAMIC CHIP	0.33MF		25V
C493	1-104-760-11	CERAMIC CHIP	0.047MF	10%	50V
C494	1-104-760-11	CERAMIC CHIP	0.047MF	10%	50V
C495	1-124-907-11	ELECT	10MF	20%	50V
C497	1-163-011-11	CERAMIC CHIP	0.0015MF	10%	50V
C498	1-124-925-11	ELECT	2.2MF	20%	50V
C499	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C500	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C501	1-164-182-11	CERAMIC CHIP	0.0033MF	10%	50V
C502	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V
C503	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C504	1-136-495-11	FILM	0.068MF	5%	50V
C505	1-163-199-00	CERAMIC CHIP	560PF	5%	50V
C506	1-124-902-00	ELECT	0.47MF	20%	50V
C507	1-128-526-11	ELECT	100MF	20%	25V
C508	1-130-495-00	MYLAR	0.1MF	5%	50V
C509	1-124-935-11	ELECT	470MF	20%	100V
C511	1-108-700-11	MYLAR	0.047MF	10%	200V
C512	1-124-902-00	ELECT	0.47MF	20%	50V
C513	1-126-096-11	ELECT	10MF	20%	25V
C514	⚠ 1-129-718-91	FILM	0.022MF	10%	630V
C515	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V
C516	1-102-030-00	CERAMIC	330PF	10%	500V
C517	1-163-024-00	CERAMIC CHIP	0.018MF	10%	50V
C518	1-107-995-11	ELECT	100MF	0	160V
C519	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C520	1-163-257-11	CERAMIC CHIP	180PF	5%	50V
C521	1-162-114-00	CERAMIC	0.0047MF		2KV
C522	1-126-942-61	ELECT	1000MF	20%	16V
C523	1-107-902-11	ELECT	1MF	20%	50V
C525	⚠ 1-136-545-11	FILM	0.0078MF	3%	2KV
C526	⚠ 1-162-116-91	CERAMIC	680PF	10%	2KV
C529	1-107-924-11	ELECT	0.47MF	20%	50V
C530	1-124-120-11	ELECT	220MF	20%	25V
C531	1-124-477-11	ELECT	47MF	20%	25V
C532	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C533	1-102-212-00	CERAMIC	820PF	10%	500V
C534	1-123-948-00	ELECT	22MF	20%	250V
C535	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C537	1-124-913-11	ELECT	470MF	20%	50V
C538	1-106-367-00	MYLAR	0.01MF	10%	100V
C539	1-130-480-00	FILM	0.0056MF	5%	50V
C540	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C541	1-126-963-11	ELECT	4.7MF	20%	50V
C542	1-106-351-00	MYLAR	0.0022MF	10%	100V
C543	1-106-351-00	MYLAR	0.0022MF	10%	100V
C544	1-106-367-00	MYLAR	0.01MF	10%	100V
C545	1-102-212-00	CERAMIC	820PF	10%	500V
C547	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C548	1-102-212-00	CERAMIC	820PF	10%	500V
C549	1-107-929-11	ELECT	10MF	20%	50V
C550	1-126-163-11	ELECT	4.7MF	20%	50V
C551	1-106-375-12	MYLAR	0.022MF	10%	100V
C552	1-107-889-11	ELECT	220MF	20%	25V
C556	1-124-907-11	ELECT	10MF	20%	50V
C557	1-106-381-12	MYLAR	0.039MF	10%	100V
C558	1-124-903-11	ELECT	1MF	20%	50V
C559	1-136-173-00	FILM	0.47MF	5%	50V
C561	1-136-159-00	FILM	0.033MF	5%	50V

REF.NO.	PART NO.	DESCRIPTION			REMARK
C562	1-163-249-11	CERAMIC CHIP	82PF	5%	50V
C564	1-124-907-11	ELECT	10MF	20%	50V
C565	1-124-903-11	ELECT	1MF	20%	50V
C566	1-106-367-00	MYLAR	0.01MF	10%	100V
C568	1-124-903-11	ELECT	1MF	20%	50V
C569	1-131-351-00	TANTALUM	4.7MF	10%	25V
C570	1-126-942-61	ELECT	1000MF	20%	16V
C571	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C572	1-104-709-11	ELECT	4.7MF	0	160V
C573	1-136-173-00	FILM	0.47MF	5%	50V
C575	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C576	1-102-244-00	CERAMIC	220PF	10%	500V
C577	1-124-907-11	ELECT	10MF	20%	50V
C578	1-136-540-11	FILM	0.82MF	5%	200V
C579	1-107-910-11	ELECT	100MF	20%	50V
C580	1-136-756-11	FILM	0.24MF	5%	200V
C581	1-126-963-11	ELECT	4.7MF	20%	50V
C582	1-102-002-00	CERAMIC	680PF	10%	500V
C583	1-136-569-11	FILM	1.2MF	5%	200V
C584	1-123-267-00	ELECT	2.2MF	20%	160V
C585	1-107-960-11	ELECT	4.7MF	20%	250V
C586	1-124-557-11	ELECT	1000MF	20%	25V
C587	1-102-030-00	CERAMIC	330PF	10%	500V
C588	1-107-929-11	ELECT	10MF	20%	50V
C589	1-102-030-00	CERAMIC	330PF	10%	500V
C590	1-107-903-11	ELECT	2.2MF	20%	50V
C591	1-106-371-00	MYLAR	0.015MF	10%	200V
C592	1-123-932-00	ELECT	4.7MF	20%	160V
C593	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C594	1-163-229-11	CERAMIC CHIP	12PF	5%	50V
C595	1-107-889-11	ELECT	220MF	20%	25V
C596	1-124-478-11	ELECT	100MF	20%	25V
C597	1-164-346-11	CERAMIC CHIP	1MF		16V
C598	1-164-346-11	CERAMIC CHIP	1MF		16V
C599	1-126-157-11	ELECT	10MF	20%	16V
C1300	1-124-477-11	ELECT	47MF	20%	25V
C1301	1-124-477-11	ELECT	47MF	20%	25V
C1302	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C1303	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C1304	1-124-477-11	ELECT	47MF	20%	25V
C1305	1-124-477-11	ELECT	47MF	20%	25V
C1306	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C1307	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C1309	1-163-257-11	CERAMIC CHIP	180PF	5%	50V
C1310	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C1312	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C1314	1-124-477-11	ELECT	47MF	20%	25V
C1315	1-124-477-11	ELECT	47MF	20%	25V
C1316	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C1317	1-124-477-11	ELECT	47MF	20%	25V
C1319	1-163-037-11	CERAMIC CHIP	0.022MF	10%	25V
C1320	1-124-477-11	ELECT	47MF	20%	25V
C1321	1-124-477-11	ELECT	47MF	20%	25V
C1322	1-124-120-11	ELECT	220MF	20%	16V
C1323	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C1324	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C1325	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C1326	1-124-477-11	ELECT	47MF	20%	25V
C1327	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C1328	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C1329	1-124-907-11	ELECT	10MF	20%	50V
C1330	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C1331	1-124-477-11	ELECT	47MF	20%	25V

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REF.NO.	PART NO.	DESCRIPTION	REMARK
C1332	1-124-477-11	ELECT 47MF 20% 25V	
C1333	1-124-477-11	ELECT 47MF 20% 25V	
C1334	1-163-227-11	CERAMIC CHIP 10PF 0.5PF 50V	
C1335	1-124-477-11	ELECT 47MF 20% 25V	
C1336	1-124-477-11	ELECT 47MF 20% 25V	
C1338	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C1339	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C1340	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C1342	1-163-105-00	CERAMIC CHIP 33PF 5% 50V	
C1344	1-163-083-00	CERAMIC CHIP 1PF 0.25PF 50V	
C1345	1-124-907-11	ELECT 10MF 20% 50V	
C1347	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C1349	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	
C1353	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C1354	1-163-121-00	CERAMIC CHIP 150PF 5% 50V	
C1355	1-163-125-00	CERAMIC CHIP 220PF 5% 50V	
C1356	1-163-235-11	CERAMIC CHIP 22PF 5% 50V	
C1357	1-124-119-00	ELECT 330MF 20% 16V	
C1358	1-124-477-11	ELECT 47MF 20% 25V	
C1359	1-163-263-11	CERAMIC CHIP 330PF 5% 50V	
C1360	1-164-161-11	CERAMIC CHIP 0.0022MF 10% 50V	
C1363	1-163-235-11	CERAMIC CHIP 22PF 5% 50V	
C1365	1-163-227-11	CERAMIC CHIP 10PF 0.5PF 50V	
C1366	1-124-477-11	ELECT 47MF 20% 25V	
C1367	1-124-477-11	ELECT 47MF 20% 25V	
C1369	1-163-237-11	CERAMIC CHIP 27PF 5% 50V	
C1370	1-163-237-11	CERAMIC CHIP 27PF 5% 50V	
C1372	1-124-477-11	ELECT 47MF 20% 25V	
C1373	1-124-477-11	ELECT 47MF 20% 25V	
C1374	1-124-477-11	ELECT 47MF 20% 25V	
C1375	1-126-963-11	ELECT 4.7MF 20% 50V	
C1378	1-163-097-00	CERAMIC CHIP 15PF 5% 50V	
C1380	1-163-163-00	CERAMIC CHIP 18PF 5% 50V	
C1381	1-163-163-00	CERAMIC CHIP 18PF 5% 50V	
C1393	1-163-251-11	CERAMIC CHIP 100PF 5% 50V	
C1400	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C1401	1-136-173-00	FILM 0.47MF 5% 50V	
C1402	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C1403	1-136-173-00	FILM 0.47MF 5% 50V	
C1404	1-164-299-11	CERAMIC CHIP 0.22MF 10% 25V	
C1405	1-163-235-11	CERAMIC CHIP 22PF 5% 50V	
C1406	1-163-090-00	CERAMIC CHIP 7PF 0.25PF 50V	
C1407	1-163-085-00	CERAMIC CHIP 2PF 0.25PF 50V	
C1408	1-163-113-00	CERAMIC CHIP 68PF 5% 50V	
C1500	1-124-556-11	ELECT 2200MF 20% 16V	
C1501	1-124-472-11	ELECT 470MF 20% 10V	
C1502	1-101-821-00	CERAMIC 0.0022MF 500V	
C1503	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
C1504	1-124-907-11	ELECT 10MF 20% 50V	
C1506	1-124-119-00	ELECT 330MF 20% 16V	
C1507	1-163-141-00	CERAMIC CHIP 0.001MF 5% 50V	
C1508	1-126-963-11	ELECT 4.7MF 20% 50V	
C1510	1-126-963-11	ELECT 4.7MF 20% 50V	
C1511	1-164-182-11	CERAMIC CHIP 0.0033MF 10% 50V	
C1512	1-126-963-11	ELECT 4.7MF 20% 50V	
C1513	1-163-197-00	CERAMIC CHIP 470PF 5% 50V	
C1514	1-130-477-00	MYLAR 0.0033MF 5% 50V	
C1515	1-124-907-11	ELECT 10MF 20% 50V	
C1516	1-163-063-00	CERAMIC CHIP 0.022MF 10% 50V	
C1517	1-126-101-11	ELECT 100MF 20% 10V	
C1518	1-104-664-11	ELECT 47MF 20% 16V	
C1519	1-163-037-11	CERAMIC CHIP 0.022MF 10% 25V	

<CONNECTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
CN101	*1-573-979-11	CONNECTOR, BOARD TO BOARD 11P	
CN102	*1-564-514-11	PLUG, CONNECTOR 11P	
CN201	*1-564-506-11	PLUG, CONNECTOR 3P	
CN301	*1-564-514-11	PLUG, CONNECTOR 11P	
CN302	*1-564-510-11	PLUG, CONNECTOR 7P	
CN401	*1-564-511-11	PLUG, CONNECTOR 8P	
CN402	*1-564-515-11	PLUG, CONNECTOR 12P	
CN501	*1-580-798-11	CONNECTOR PIN (DY) 6P	
CN502	*1-573-964-11	PIN, CONNECTOR (PC BOARD) 6P	
CN503	*1-573-964-11	PIN, CONNECTOR (PC BOARD) 6P	
CN504	*1-564-508-11	PLUG, CONNECTOR 5P	
CN507	*1-535-419-00	TAB, FASTEN (PCB)	

<COMPOSITION CIRCUIT BLOCK>

REF.NO.	PART NO.	DESCRIPTION	REMARK
CP300	1-236-366-11	MODULE, TRAP	
CP301	1-236-365-11	MODULE, TRAP	
CP302	1-808-654-21	MODULE	

<DIODE>

REF.NO.	PART NO.	DESCRIPTION	REMARK
D100	8-719-404-46	DIODE MA110	
D101	8-719-800-76	DIODE 1SS226	
D102	8-719-800-76	DIODE 1SS226	
D103	8-719-045-70	DIODE 1SV230TPH3	
D104	8-719-800-76	DIODE 1SS226	
D105	8-719-800-76	DIODE 1SS226	
D106	8-719-800-76	DIODE 1SS226	
D107	8-719-800-76	DIODE 1SS226	
D108	8-719-104-34	DIODE 1S2836	
D109	8-719-801-78	DIODE 1SS184	
D111	8-719-977-05	DIODE DTZ6.2	
D113	8-719-159-06	DIODE RD4.7SB-T2	
D115	8-719-977-05	DIODE DTZ6.2	
D116	8-719-404-46	DIODE MA110	
D200	8-719-977-46	DIODE DTZ13C	
D300	8-719-025-07	DIODE 1SV232-TPH3	
D301	8-719-404-46	DIODE MA110	
D302	8-719-159-06	DIODE RD4.7SB-T2	
D303	8-719-977-05	DIODE DTZ6.2	
D304	8-719-801-78	DIODE 1SS184	
D305	8-719-800-76	DIODE 1SS226	
D307	8-719-404-46	DIODE MA110	
D308	8-719-404-46	DIODE MA110	
D309	8-719-404-46	DIODE MA110	
D310	8-719-104-34	DIODE 1S2836	
D311	8-719-045-70	DIODE 1SV230TPH3	
D312	8-719-404-46	DIODE MA110	
D313	8-719-801-78	DIODE 1SS184	
D315	8-719-404-46	DIODE MA110	
D317	8-719-404-46	DIODE MA110	
D320	8-719-404-46	DIODE MA110	
D322	8-719-404-46	DIODE MA110	
D323	8-719-404-46	DIODE MA110	
D324	8-719-045-70	DIODE 1SV230TPH3	
D326	8-719-045-70	DIODE 1SV230TPH3	
D327	8-719-104-34	DIODE 1S2836	
D332	8-719-404-46	DIODE MA110	
D335	8-719-404-46	DIODE MA110	
D336	8-719-404-46	DIODE MA110	
D337	8-719-404-46	DIODE MA110	
D338	8-719-404-46	DIODE MA110	

REF.NO.	PART NO.	DESCRIPTION	REMARK
D339	8-719-404-46	DIODE MA110	
D345	8-719-104-34	DIODE 1S2836	
D346	8-719-104-34	DIODE 1S2836	
D347	8-719-104-34	DIODE 1S2836	
D361	8-719-104-34	DIODE 1S2836	
D365	8-719-404-46	DIODE MA110	
D381	8-719-404-46	DIODE MA110	
D401	8-719-404-46	DIODE MA110	
D404	8-719-800-76	DIODE 1SS226	
D405	8-719-801-78	DIODE 1SS184	
D406	8-719-404-46	DIODE MA110	
D407	8-719-404-46	DIODE MA110	
D408	8-719-404-46	DIODE MA110	
D410	8-719-404-46	DIODE MA110	
D411	8-719-404-46	DIODE MA110	
D414	8-719-801-78	DIODE 1SS184	
D415	8-719-801-78	DIODE 1SS184	
D416	8-719-801-78	DIODE 1SS184	
D417	8-719-801-78	DIODE 1SS184	
D418	8-719-801-78	DIODE 1SS184	
D421	8-719-404-46	DIODE MA110	
D422	8-719-404-46	DIODE MA110	
D423	8-719-800-76	DIODE 1SS226	
D424	8-719-404-46	DIODE MA110	
D425	8-719-800-76	DIODE 1SS226	
D427	8-719-404-46	DIODE MA110	
D500	8-719-404-46	DIODE MA110	
D501	8-719-977-03	DIODE DTZ5.6B	
D502	8-719-979-80	DIODE UF5406	
D503	8-719-404-46	DIODE MA110	
D504	8-719-901-83	DIODE 1SS83	
D505	8-719-028-72	DIODE RGP02-17EL-6433	
D506	8-719-945-80	DIODE ERC06-15S	
D507	8-719-800-76	DIODE 1SS226	
D508	8-719-800-76	DIODE 1SS226	
D510	8-719-302-43	DIODE EL1Z	
D511	8-719-404-46	DIODE MA110	
D512	8-719-979-80	DIODE UF5406	
D513	8-719-404-46	DIODE MA110	
D514	8-719-971-20	DIODE ERC38-06	
D515	8-719-971-20	DIODE ERC38-06	
D516	8-719-404-46	DIODE MA110	
D517	8-719-404-46	DIODE MA110	
D518	8-719-404-46	DIODE MA110	
D519	8-719-404-46	DIODE MA110	
D520	8-719-801-78	DIODE 1SS184	
D522	8-719-977-05	DIODE DTZ6.2	
D523	8-719-404-46	DIODE MA110	
D524	8-719-200-02	DIODE 10E-2	
D525	8-719-200-02	DIODE 10E-2	
D526	8-719-404-46	DIODE MA110	
D527	8-719-200-02	DIODE 10E-2	
D528	8-719-300-76	DIODE RH-1A	
D529	8-719-200-02	DIODE 10E-2	
D530	8-719-300-76	DIODE RH-1A	
D531	8-719-977-32	DIODE DTZ11B	
D532	8-719-800-76	DIODE 1SS226	
D533	8-719-302-43	DIODE EL1Z	
D534	8-719-404-46	DIODE MA110	
D535	8-719-404-46	DIODE MA110	
D536	8-719-800-76	DIODE 1SS226	
D538	8-719-800-76	DIODE 1SS226	
D539	8-719-404-46	DIODE MA110	
D540	8-719-404-46	DIODE MA110	
D543	8-719-911-19	DIODE 1SS119-25	

<DELAY LINE>

REF.NO.	PART NO.	DESCRIPTION	REMARK
DL300	1-415-633-11	DELAY LINE, Y	
DL301	1-415-632-11	DELAY LINE, Y	
DL401	1-409-547-11	DELAY LINE	

<FILTER>

REF.NO.	PART NO.	DESCRIPTION	REMARK
FL300	1-236-547-11	TRAP, LC	
FL401	1-236-364-11	FILTER, BAND PASS	

<IC>

REF.NO.	PART NO.	DESCRIPTION	REMARK
IC101	8-759-326-63	IC UPD78013YCW-Y05	
IC102	8-759-280-74	IC ST24C02CB1	
IC103	8-759-008-48	IC MC74HC86F	
IC104	8-759-262-59	IC UPD6451AGT-632-E2	
IC105	8-759-196-70	IC M62358FP-E1	
IC106	8-759-196-70	IC M62358FP-E1	
IC107	8-759-196-70	IC M62358FP-E1	
IC108	8-759-042-02	IC S-80743AL-A7-S	
IC109	8-759-196-70	IC M62358FP-E1	
IC110	8-759-196-70	IC M62358FP-E1	
IC111	8-759-009-22	IC MC14094BF	
IC200	8-759-420-04	IC AN5265	
IC302	8-759-998-98	IC LM358D	
IC303	8-752-056-67	IC CXA1214P	
IC304	8-759-932-67	IC BU4053BCF	
IC305	8-759-631-08	IC M51279FP	
IC306	8-759-711-32	IC NJM2245M	
IC309	8-759-711-32	IC NJM2245M	
IC310	8-759-932-67	IC BU4053BCF	
IC311	8-759-008-67	IC MC14066BF	
IC312	8-759-711-32	IC NJM2245M	
IC313	8-759-084-76	IC MM1111XF	
IC314	8-759-287-89	IC MM1113XFF	
IC316	8-759-084-76	IC MM1111XF	
IC318	8-759-009-67	IC MC14584BF	
IC320	8-759-287-89	IC MM1113XFF	
IC321	8-759-287-89	IC MM1113XFF	
IC322	8-759-287-89	IC MM1113XFF	
IC323	8-759-287-89	IC MM1113XFF	
IC324	8-759-287-89	IC MM1113XFF	
IC325	8-759-287-89	IC MM1113XFF	
IC326	8-759-060-00	IC BA10324AF	
IC350	8-759-100-96	IC UPC4558G2	
IC401	8-759-196-69	IC BA7655AF-E2	
IC402	8-752-053-21	IC CXA1211M	
IC403	8-759-008-67	IC MC14066BF	
IC404	8-752-052-62	IC CXA1478S	
IC405	8-759-932-67	IC BU4053BCF	
IC406	8-759-998-98	IC LM358D	
IC407	8-759-008-67	IC MC14066BF	
IC408	8-759-509-91	IC XRA10393F	
IC409	8-759-060-00	IC BA10324AF	
IC410	8-759-009-06	IC MC14052BF	
IC411	8-759-008-92	IC MC14024BF	
IC412	8-759-932-67	IC BU4053BCF	
IC413	8-759-932-67	IC BU4053BCF	
IC500	8-749-010-07	IC H8D7248	
IC502	8-759-009-51	IC MC14538BF	
IC503	8-759-009-51	IC MC14538BF	

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The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION	REMARK
IC504	8-752-053-21	IC CXA1211M	
IC505	8-759-520-07	IC XRA17812T	
IC507	8-759-100-60	IC UPC1377C	
IC508	8-752-053-21	IC CXA1211M	
IC509	8-759-998-98	IC LM358D	
		<CONDUCTOR CHIP>	
JR302	1-216-295-91	CONDUCTOR, CHIP	
JR304	1-216-295-91	CONDUCTOR, CHIP	
JR305	1-216-295-91	CONDUCTOR, CHIP	
JR306	1-216-295-91	CONDUCTOR, CHIP	
		<COIL>	
L101	1-408-609-41	INDUCTOR 33UH	
L102	1-408-417-00	INDUCTOR 47UH	
L104	1-408-425-00	INDUCTOR 220UH	
L300	1-410-478-11	INDUCTOR 47UH	
L301	1-408-411-00	INDUCTOR 15UH	
L302	1-412-008-31	INDUCTOR CHIP 15UH	
L303	1-408-416-00	INDUCTOR 39UH	
L304	1-412-008-31	INDUCTOR CHIP 15UH	
L305	1-410-196-11	INDUCTOR CHIP 2.2UH	
L306	1-408-416-00	INDUCTOR 39UH	
L307	1-408-411-00	INDUCTOR 15UH	
L308	1-410-466-41	INDUCTOR 4.7UH	
L309	1-410-470-11	INDUCTOR 10UH	
L311	1-410-470-11	INDUCTOR 10UH	
L312	1-412-011-31	INDUCTOR CHIP 27UH	
L314	1-412-011-31	INDUCTOR CHIP 27UH	
L316	1-412-011-31	INDUCTOR CHIP 27UH	
L319	1-408-421-00	INDUCTOR 100UH	
L320	1-410-682-31	INDUCTOR 470UH	
L401	1-410-478-11	INDUCTOR 47UH	
L402	1-410-216-31	INDUCTOR CHIP 100UH	
L403	1-410-216-31	INDUCTOR CHIP 100UH	
L404	1-410-216-31	INDUCTOR CHIP 100UH	
L405	1-408-419-00	INDUCTOR 68UH	
L406	1-408-419-00	INDUCTOR 68UH	
L407	1-408-413-00	INDUCTOR 22UH	
L408	1-408-413-00	INDUCTOR 22UH	
L409	1-410-214-31	INDUCTOR CHIP 68UH	
L500	1-459-155-00	COIL (WITH CORE) 45UH	
L501	1-407-365-00	COIL, CHOKE	
L502	1-407-365-00	COIL, CHOKE	
L503	1-410-093-11	INDUCTOR 33MMH	
L504	1-410-666-31	INDUCTOR 18UH	
L505	1-410-671-31	INDUCTOR 47UH	
L507	1-410-686-11	INDUCTOR 1MMH	
L508	1-412-530-31	INDUCTOR 27UH	
L509	1-459-075-11	COIL, DYNAMIC CONVERSION CHOKE	
L511	1-459-106-00	COIL, DUST CORE	
L512	1-459-155-00	COIL (WITH CORE) 45UH	
L513	1-412-447-11	INDUCTOR 3.9MMH	
L514	1-459-104-00	COIL, DUST CORE	
L515	1-459-059-00	COIL, DUST CORE	
L516 ⚠	1-459-760-13	COIL, HORIZONTAL LINEARITY	
L517	1-412-547-21	INDUCTOR 680UH	
		<NEON LAMP>	
NL500	1-519-526-11	LAMP, NEON	

REF.NO.	PART NO.	DESCRIPTION	REMARK
		<TRANSISTOR>	
Q101	8-729-901-01	TRANSISTOR DTC144EK	
Q102	8-729-216-22	TRANSISTOR 2SA1162-G	
Q103	8-729-216-22	TRANSISTOR 2SA1162-G	
Q107	8-729-901-06	TRANSISTOR DTA144EK	
Q108	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q109	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q110	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q111	8-729-901-06	TRANSISTOR DTA144EK	
Q112	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q113	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q114	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q200	8-729-140-96	TRANSISTOR 2SD774-34	
Q201	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q300	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q301	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q302	8-729-216-22	TRANSISTOR 2SA1162-G	
Q303	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q305	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q306	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q307	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q308	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q309	8-729-216-22	TRANSISTOR 2SA1162-G	
Q310	8-729-216-22	TRANSISTOR 2SA1162-G	
Q311	8-729-216-22	TRANSISTOR 2SA1162-G	
Q312	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q313	8-729-216-22	TRANSISTOR 2SA1162-G	
Q314	8-729-901-06	TRANSISTOR DTA144EK	
Q315	8-729-216-22	TRANSISTOR 2SA1162-G	
Q317	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q318	8-729-216-22	TRANSISTOR 2SA1162-G	
Q319	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q320	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q321	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q322	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q323	8-729-901-01	TRANSISTOR DTC144EK	
Q324	8-729-901-01	TRANSISTOR DTC144EK	
Q325	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q326	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q327	8-729-216-22	TRANSISTOR 2SA1162-G	
Q328	8-729-141-53	TRANSISTOR 2SK94-X2X3X4	
Q329	8-729-141-53	TRANSISTOR 2SK94-X2X3X4	
Q330	8-729-216-22	TRANSISTOR 2SA1162-G	
Q331	8-729-216-22	TRANSISTOR 2SA1162-G	
Q332	8-729-901-01	TRANSISTOR DTC144EK	
Q333	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q334	8-729-216-22	TRANSISTOR 2SA1162-G	
Q336	8-729-109-44	TRANSISTOR 2SL94-X4	
Q337	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q341	8-729-920-39	TRANSISTOR IMT1US	
Q342	8-729-920-39	TRANSISTOR IMT1US	
Q343	8-729-920-39	TRANSISTOR IMT1US	
Q345	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q346	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q347	8-729-901-01	TRANSISTOR DTC144EK	
Q348	8-729-216-22	TRANSISTOR 2SA1162-G	
Q349	8-729-216-22	TRANSISTOR 2SA1162-G	
Q350	8-729-216-22	TRANSISTOR 2SA1162-G	
Q351	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q352	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q353	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q354	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q360	8-729-907-26	TRANSISTOR IMX1	

REF.NO.	PART NO.	DESCRIPTION	REMARK
Q361	8-729-901-06	TRANSISTOR DTA144EK	
Q363	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q364	8-729-901-01	TRANSISTOR DTC144EK	
Q372	8-729-901-01	TRANSISTOR DTC144EK	
Q401	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q402	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q403	8-729-901-01	TRANSISTOR DTC144EK	
Q404	8-729-216-22	TRANSISTOR 2SA1162-G	
Q405	8-729-216-22	TRANSISTOR 2SA1162-G	
Q406	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q407	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q408	8-729-216-22	TRANSISTOR 2SA1162-G	
Q409	8-729-216-22	TRANSISTOR 2SA1162-G	
Q410	8-729-907-26	TRANSISTOR IMX1	
Q411	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q412	8-729-216-22	TRANSISTOR 2SA1162-G	
Q413	8-729-141-53	TRANSISTOR 2SK94-X2X3X4	
Q414	8-729-216-22	TRANSISTOR 2SA1162-G	
Q415	8-729-216-22	TRANSISTOR 2SA1162-G	
Q416	8-729-216-22	TRANSISTOR 2SA1162-G	
Q417	8-729-216-22	TRANSISTOR 2SA1162-G	
Q418	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q419	8-729-216-22	TRANSISTOR 2SA1162-G	
Q420	8-729-216-22	TRANSISTOR 2SA1162-G	
Q421	8-729-901-01	TRANSISTOR DTC144EK	
Q422	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q423	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q424	8-729-901-01	TRANSISTOR DTC144EK	
Q425	8-729-901-01	TRANSISTOR DTC144EK	
Q426	8-729-901-01	TRANSISTOR DTC144EK	
Q428	8-729-216-22	TRANSISTOR 2SA1162-G	
Q429	8-729-216-22	TRANSISTOR 2SA1162-G	
Q430	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q431	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q432	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q433	8-729-901-01	TRANSISTOR DTC144EK	
Q434	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q435	8-729-901-01	TRANSISTOR DTC144EK	
Q436	8-729-901-01	TRANSISTOR DTC144EK	
Q437	8-729-901-01	TRANSISTOR DTC144EK	
Q438	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q439	8-729-216-22	TRANSISTOR 2SA1162-G	
Q440	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q441	8-729-141-53	TRANSISTOR 2SK94-X2X3X4	
Q442	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q443	8-729-216-22	TRANSISTOR 2SA1162-G	
Q444	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q445	8-729-901-01	TRANSISTOR DTC144EK	
Q500	8-729-216-22	TRANSISTOR 2SA1162-G	
Q501	8-729-800-35	TRANSISTOR 2SD1397-CA	
Q502	8-729-119-80	TRANSISTOR 2SC2688-LK	
Q503	8-729-313-42	TRANSISTOR 2SD1134-C	
Q504	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q505	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q506	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q507	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q508	8-729-216-22	TRANSISTOR 2SA1162-G	
Q511	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q512	8-729-195-82	TRANSISTOR 2SC2958-L	
Q513	8-729-122-03	TRANSISTOR 2SA1220A-P	
Q514	8-729-901-00	TRANSISTOR DTC124EK	
Q515	8-729-169-02	TRANSISTOR 2SC2690A-Q	
Q517	8-729-901-06	TRANSISTOR DTA144EK	
Q519	8-729-901-01	TRANSISTOR DTC144EK	

REF.NO.	PART NO.	DESCRIPTION	REMARK
Q520	8-729-021-82	TRANSISTOR 2SD2396K	
Q522	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q523	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q524	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q525	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q526	8-729-216-22	TRANSISTOR 2SA1162-G	
Q527	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
		<RESISTOR>	
R101	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R102	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R103	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R104	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R105	1-216-059-00	METAL GLAZE 2.7K 5% 1/10W	
R106	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R108	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R109	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R110	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R113	1-216-085-00	METAL GLAZE 33K 5% 1/10W	
R116	1-218-761-11	METAL CHIP 240K 0.50% 1/10W	
R117	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
R119	1-216-689-11	METAL GLAZE 39K 5% 1/10W	
R130	1-216-099-00	METAL GLAZE 120K 5% 1/10W	
R132	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R133	1-216-091-00	METAL GLAZE 56K 5% 1/10W	
R134	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R135	1-216-085-00	METAL GLAZE 33K 5% 1/10W	
R137	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R140	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R141	1-216-085-00	METAL GLAZE 33K 5% 1/10W	
R144	1-216-295-91	CONDUCTOR, CHIP	
R149	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R151	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W	
R154	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R155	1-216-083-00	METAL GLAZE 27K 5% 1/10W	
R157	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R159	1-216-063-00	METAL GLAZE 3.9K 5% 1/10W	
R160	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W	
R162	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R163	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R164	1-216-067-00	METAL GLAZE 5.6K 5% 1/10W	
R165	1-216-295-91	CONDUCTOR, CHIP	
R167	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W	
R177	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R181	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R185	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R187	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W	
R189	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R190	1-216-049-91	METAL GLAZE 1K 5% 1/10W	
R192	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R195	1-216-071-00	METAL GLAZE 8.2K 5% 1/10W	
R197	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W	
R199	1-216-295-91	CONDUCTOR, CHIP	
R200	1-208-817-11	METAL CHIP 30K 0.50% 1/10W	
R201	1-216-049-91	METAL GLAZE 1K 5% 1/10W	
R202	1-212-857-00	FUSIBLE 10 5% 1/4W	F
R203	1-260-095-11	CARBON 470 5% 1/2W	
R204	1-260-072-11	CARBON 4.7 5% 1/2W	
R205	1-216-647-11	METAL CHIP 680 0.50% 1/10W	
R206	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R207	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R208	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	

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REF.NO.	PART NO.	DESCRIPTION				REMARK
R209	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R210	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R211	1-249-393-11	CARBON	10	5%	1/4W	F
R237	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R301	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R302	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R303	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R304	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R305	1-216-295-91	CONDUCTOR, CHIP				
R306	1-216-295-91	CONDUCTOR, CHIP				
R307	1-216-115-00	METAL GLAZE	560K	5%	1/10W	
R308	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R311	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R312	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R313	1-216-649-11	METAL CHIP	820	0.50%	1/10W	
R314	1-216-099-00	METAL GLAZE	120K	5%	1/10W	
R315	1-216-099-00	METAL GLAZE	120K	5%	1/10W	
R316	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R317	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R318	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R319	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R320	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R321	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W	
R322	1-216-035-00	METAL GLAZE	270	5%	1/10W	
R323	1-216-109-00	METAL GLAZE	330K	5%	1/10W	
R324	1-216-101-00	METAL GLAZE	150K	5%	1/10W	
R325	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R326	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R328	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R329	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R330	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R331	1-216-093-00	METAL GLAZE	68K	5%	1/10W	
R332	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R333	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R334	1-216-093-00	METAL GLAZE	68K	5%	1/10W	
R335	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R336	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R337	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R338	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R339	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R340	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R341	1-216-673-11	METAL CHIP	8.2K	0.50%	1/10W	
R342	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R343	1-216-095-00	METAL GLAZE	82K	5%	1/10W	
R344	1-216-099-00	METAL GLAZE	120K	5%	1/10W	
R345	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W	
R346	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R347	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R348	1-216-031-00	METAL GLAZE	180	5%	1/10W	
R349	1-216-694-11	METAL CHIP	62K	0.50%	1/10W	
R350	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R351	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R352	1-208-806-11	METAL CHIP	10K	0.50%	1/10W	
R353	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R354	1-216-123-11	METAL GLAZE	1.2M	5%	1/10W	
R355	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R356	1-216-689-11	METAL GLAZE	39K	5%	1/10W	
R357	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R358	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R359	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R360	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R361	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R362	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R363	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R364	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R366	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R367	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W	
R368	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R371	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R372	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R373	1-216-645-11	METAL CHIP	560	0.50%	1/10W	
R374	1-216-647-11	METAL CHIP	680	0.50%	1/10W	
R375	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R376	1-216-111-00	METAL GLAZE	390K	5%	1/10W	
R377	1-216-131-11	METAL GLAZE	2.7M	5%	1/10W	
R378	1-216-114-00	METAL GLAZE	510K	5%	1/10W	
R378	1-218-769-11	METAL CHIP	510K	0.50%	1/10W	
R379	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R380	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R381	1-216-689-11	METAL GLAZE	39K	5%	1/10W	
R382	1-216-101-00	METAL GLAZE	150K	5%	1/10W	
R383	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R384	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R385	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R386	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R387	1-216-029-00	METAL GLAZE	150	5%	1/10W	
R388	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R389	1-216-649-11	METAL CHIP	820	0.50%	1/10W	
R390	1-249-393-11	CARBON	10	5%	1/4W	F
R391	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R393	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R394	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R395	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R396	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R397	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R398	1-216-105-91	METAL GLAZE	220K	5%	1/10W	
R399	1-216-111-00	METAL GLAZE	390K	5%	1/10W	
R400	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R401	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R402	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R403	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R406	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R407	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R408	1-216-689-11	METAL CHIP	39K	0.50%	1/10W	
R410	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R411	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R412	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R413	1-208-799-11	METAL CHIP	5.1K	0.50%	1/10W	
R416	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R417	1-216-665-11	METAL CHIP	3.9K	0.50%	1/10W	
R418	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	
R419	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R420	1-216-689-11	METAL GLAZE	39K	5%	1/10W	
R422	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R423	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R424	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R425	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R426	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R427	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R428	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R429	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R430	1-216-119-00	METAL GLAZE	820K	5%	1/10W	
R431	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R432	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R434	1-216-109-00	METAL GLAZE	330K	5%	1/10W	
R435	1-216-105-91	METAL GLAZE	220K	5%	1/10W	
R436	1-216-113-00	METAL GLAZE	470K	5%	1/10W	

REF.NO.	PART NO.	DESCRIPTION				REMARK
R437	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R438	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R439	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R440	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R441	1-216-645-11	METAL CHIP	560	0.50%	1/10W	
R442	1-216-647-11	METAL CHIP	680	0.50%	1/10W	
R443	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R444	1-216-105-91	METAL GLAZE	220K	5%	1/10W	
R445	1-216-095-00	METAL GLAZE	82K	5%	1/10W	
R447	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R448	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R449	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R450	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R451	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R452	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R453	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R455	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R456	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R457	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R458	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R459	1-216-649-11	METAL CHIP	820	0.50%	1/10W	
R460	1-216-295-91	CONDUCTOR, CHIP				
R462	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R463	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R464	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R465	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R466	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R467	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R468	1-216-105-91	METAL GLAZE	220K	5%	1/10W	
R469	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W	
R470	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R471	1-216-109-00	METAL GLAZE	330K	5%	1/10W	
R472	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R473	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R474	1-216-649-11	METAL CHIP	820	0.50%	1/10W	
R475	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R476	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R477	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R478	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R479	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R480	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R481	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R482	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R483	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R484	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R485	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R486	1-208-812-11	METAL CHIP	18K	0.50%	1/10W	
R487	1-208-784-11	METAL CHIP	1.2K	0.50%	1/10W	
R488	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R489	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R490	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R491	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R492	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R493	1-216-295-91	CONDUCTOR, CHIP				
R494	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R495	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R496	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R497	1-208-784-11	METAL CHIP	1.2K	0.50%	1/10W	
R498	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R499	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R500	1-216-689-11	METAL GLAZE	39K	5%	1/10W	
R501	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R502	1-216-677-11	METAL CHIP	12K	0.50%	1/10W	
R503	1-249-430-11	CARBON	12K	5%	1/4W	

REF.NO.	PART NO.	DESCRIPTION				REMARK
R504	1-216-111-00	METAL GLAZE	390K	5%	1/10W	
R505	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R506	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R507	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R508	1-216-105-91	METAL GLAZE	220K	5%	1/10W	
R509	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R510	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R511	1-216-099-00	METAL GLAZE	120K	5%	1/10W	
R512	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R513	1-216-295-91	CONDUCTOR, CHIP				
R514	1-216-295-91	CONDUCTOR, CHIP				
R515	1-208-806-11	METAL CHIP	10K	0.50%	1/10W	
R516	1-216-103-91	METAL GLAZE	180K	5%	1/10W	
R517	1-214-888-00	METAL	10K	1%	1/2W	
R518	1-260-123-11	CARBON	100K	5%	1/2W	
R519	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R520	1-249-423-11	CARBON	3.3K	5%	1/4W	F
R521	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R522	1-260-111-11	CARBON	10K	5%	1/2W	
R523	1-215-892-11	METAL OXIDE	1K	5%	2W	F
R524	1-216-093-00	METAL GLAZE	68K	5%	1/10W	
R525	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R528	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R529	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R530	1-216-367-11	METAL OXIDE	0.68	5%	2W	F
R531	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R532	1-215-919-11	METAL OXIDE	2.2K	5%	3W	F
R533	1-247-723-11	CARBON	6.8K	5%	1/4W	F
R534	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R535	1-249-448-11	CARBON	1.2	5%	1/4W	F
R538	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R539	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R540	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R541	1-249-383-11	CARBON	1.5	5%	1/4W	F
R542	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R543	1-212-883-00	FUSIBLE	120	5%	1/4W	F
R544	1-216-095-00	METAL GLAZE	82K	5%	1/10W	
R545	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R546	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R547	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R548	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R549	1-216-677-11	METAL CHIP	12K	0.50%	1/10W	
R550	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R551	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R552	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R553	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R554	1-216-095-00	METAL GLAZE	82K	5%	1/10W	
R555	1-208-823-11	METAL CHIP	51K	0.50%	1/10W	
R556	1-215-899-11	METAL OXIDE	15K	5%	2W	F
R557	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R558	1-247-711-11	CARBON	680	5%	1/4W	F
R559	1-216-109-00	METAL GLAZE	330K	5%	1/10W	
R560	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R561	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R563	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R564	1-216-107-00	METAL GLAZE	270K	5%	1/10W	
R565	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R567	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R568	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R569	1-260-114-11	CARBON	18K	5%	1/2W	
R571	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R572	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R573	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	

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REF.NO.	PART NO.	DESCRIPTION				REMARK
R574	1-216-689-11	METAL GLAZE	39K	5%	1/10W	
R575	1-249-383-11	CARBON	1.5	5%	1/4W	F
R576	1-216-101-00	METAL GLAZE	150K	5%	1/10W	
R578	1-208-824-11	METAL CHIP	56K	0.50%	1/10W	
R580	1-216-105-91	METAL GLAZE	220K	5%	1/10W	
R582	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R583	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R584	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R585	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R586	1-208-817-11	METAL CHIP	30K	0.50%	1/10W	
R587	1-208-806-11	METAL CHIP	10K	0.50%	1/10W	
R588	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R589	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R590	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R591	1-208-814-11	METAL CHIP	22K	0.50%	1/10W	
R592	1-247-688-11	CARBON	10	5%	1/4W	F
R593	1-216-647-11	METAL CHIP	680	0.50%	1/10W	
R594	1-260-104-91	CARBON	2.7K	5%	1/2W	
R595	1-216-689-11	METAL GLAZE	39K	5%	1/10W	
R596	1-214-754-00	METAL	11K	1%	1/4W	
R597	1-249-417-11	CARBON	1K	5%	1/4W	F
R598	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R599	1-216-645-11	METAL CHIP	560	0.50%	1/10W	
R1103	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R1104	1-216-699-11	METAL CHIP	100K	0.50%	1/10W	
R1105	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1106	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R1107	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R1108	1-208-812-11	METAL CHIP	18K	0.50%	1/10W	
R1111	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R1112	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R1113	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1114	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R1115	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R1116	1-216-677-11	METAL CHIP	12K	0.50%	1/10W	
R1117	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R1118	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R1119	1-216-694-11	METAL CHIP	62K	0.50%	1/10W	
R1120	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R1123	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R1124	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R1125	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R1128	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R1129	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R1131	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R1132	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R1134	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1136	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R1139	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R1140	1-208-784-11	METAL CHIP	1.2K	0.50%	1/10W	
R1141	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R1142	1-208-784-11	METAL CHIP	1.2K	0.50%	1/10W	
R1143	1-208-784-11	METAL CHIP	1.2K	0.50%	1/10W	
R1144	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1145	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R1146	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R1147	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R1148	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R1150	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R1151	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1155	1-216-133-00	METAL GLAZE	3.3M	5%	1/10W	
R1163	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R1164	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R1165	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R1170	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R1171	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R1172	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R1177	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R1179	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R1180	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R1182	1-216-131-11	METAL GLAZE	2.7M	5%	1/10W	
R1183	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R1184	1-216-131-11	METAL GLAZE	2.7M	5%	1/10W	
R1185	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R1186	1-216-131-11	METAL GLAZE	2.7M	5%	1/10W	
R1187	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R1188	1-216-131-11	METAL GLAZE	2.7M	5%	1/10W	
R1189	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R1190	1-216-131-11	METAL GLAZE	2.7M	5%	1/10W	
R1191	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R1192	1-216-131-11	METAL GLAZE	2.7M	5%	1/10W	
R1193	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1194	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R1195	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1196	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R1197	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1198	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R1301	1-216-029-00	METAL GLAZE	150	5%	1/10W	
R1302	1-216-029-00	METAL GLAZE	150	5%	1/10W	
R1303	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R1304	1-216-689-11	METAL GLAZE	39K	5%	1/10W	
R1305	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R1306	1-216-645-11	METAL CHIP	560	0.50%	1/10W	
R1307	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R1308	1-216-645-11	METAL CHIP	560	0.50%	1/10W	
R1309	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1311	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R1312	1-216-027-00	METAL GLAZE	120	5%	1/10W	
R1313	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R1314	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1315	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1316	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R1317	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R1319	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R1320	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R1321	1-216-649-11	METAL CHIP	820	0.50%	1/10W	
R1322	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R1324	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R1325	1-216-652-11	METAL CHIP	1.1K	0.50%	1/10W	
R1326	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1328	1-216-125-00	METAL GLAZE	1.5M	5%	1/10W	
R1329	1-216-103-91	METAL GLAZE	180K	5%	1/10W	
R1330	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1331	1-208-810-11	METAL CHIP	15K	0.50%	1/10W	
R1332	1-216-671-11	METAL CHIP	6.8K	0.50%	1/10W	
R1333	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R1334	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W	
R1336	1-216-095-00	METAL GLAZE	82K	5%	1/10W	
R1339	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R1340	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R1341	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R1342	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R1343	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R1344	1-216-093-00	METAL GLAZE	68K	5%	1/10W	
R1345	1-216-109-00	METAL GLAZE	330K	5%	1/10W	
R1346	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R1347	1-216-073-00	METAL GLAZE	10K	5%	1/10W	

REF.NO.	PART NO.	DESCRIPTION	REMARK
R1348	1-216-071-00	METAL GLAZE 8.2K 5% 1/10W	
R1350	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R1351	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R1352	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R1353	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R1354	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
R1355	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R1356	1-216-105-91	METAL GLAZE 220K 5% 1/10W	
R1357	1-216-101-00	METAL GLAZE 150K 5% 1/10W	
R1358	1-216-071-00	METAL GLAZE 8.2K 5% 1/10W	
R1359	1-216-099-00	METAL GLAZE 120K 5% 1/10W	
R1361	1-216-113-00	METAL GLAZE 470K 5% 1/10W	
R1362	1-216-676-11	METAL CHIP 11K 0.50% 1/10W	
R1363	1-216-113-00	METAL GLAZE 470K 5% 1/10W	
R1364	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R1365	1-216-131-11	METAL GLAZE 2.7M 5% 1/10W	
R1366	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R1367	1-216-660-11	METAL CHIP 2.4K 0.50% 1/10W	
R1368	1-216-059-00	METAL GLAZE 2.7K 5% 1/10W	
R1369	1-216-051-00	METAL GLAZE 1.2K 5% 1/10W	
R1370	1-216-105-91	METAL GLAZE 220K 5% 1/10W	
R1371	1-216-113-00	METAL GLAZE 470K 5% 1/10W	
R1372	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
R1373	1-216-063-00	METAL GLAZE 3.9K 5% 1/10W	
R1374	1-216-101-00	METAL GLAZE 150K 5% 1/10W	
R1375	1-216-645-11	METAL CHIP 560 0.50% 1/10W	
R1376	1-216-647-11	METAL CHIP 680 0.50% 1/10W	
R1377	1-216-055-00	METAL GLAZE 1.8K 5% 1/10W	
R1378	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R1379	1-216-037-00	METAL GLAZE 330 5% 1/10W	
R1380	1-216-645-11	METAL CHIP 560 0.50% 1/10W	
R1381	1-216-647-11	METAL CHIP 680 0.50% 1/10W	
R1382	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R1383	1-208-812-11	METAL CHIP 18K 0.50% 1/10W	
R1384	1-216-091-00	METAL GLAZE 56K 5% 1/10W	
R1385	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R1386	1-216-077-00	METAL GLAZE 15K 5% 1/10W	
R1387	1-208-784-11	METAL CHIP 1.2K 0.50% 1/10W	
R1388	1-216-689-11	METAL CHIP 39K 0.50% 1/10W	
R1389	1-216-657-11	METAL CHIP 1.8K 0.50% 1/10W	
R1390	1-216-647-11	METAL CHIP 680 0.50% 1/10W	
R1391	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R1392	1-216-041-00	METAL GLAZE 470 5% 1/10W	
R1393	1-216-063-00	METAL GLAZE 3.9K 5% 1/10W	
R1394	1-216-041-00	METAL GLAZE 470 5% 1/10W	
R1395	1-216-071-00	METAL GLAZE 8.2K 5% 1/10W	
R1396	1-216-071-00	METAL GLAZE 8.2K 5% 1/10W	
R1397	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R1398	1-216-295-91	CONDUCTOR, CHIP	
R1399	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R1401	1-216-085-00	METAL GLAZE 33K 5% 1/10W	
R1402	1-216-295-91	CONDUCTOR, CHIP	
R1403	1-216-651-11	METAL CHIP 1K 0.50% 1/10W	
R1404	1-208-812-11	METAL CHIP 18K 0.50% 1/10W	
R1405	1-216-071-00	METAL GLAZE 8.2K 5% 1/10W	
R1406	1-208-784-11	METAL CHIP 1.2K 0.50% 1/10W	
R1407	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W	
R1408	1-216-113-00	METAL GLAZE 470K 5% 1/10W	
R1409	1-216-295-91	CONDUCTOR, CHIP	
R1410	1-216-053-00	METAL GLAZE 1.5K 5% 1/10W	
R1413	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R1414	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
R1415	1-216-093-00	METAL GLAZE 68K 5% 1/10W	
R1416	1-216-113-00	METAL GLAZE 470K 5% 1/10W	
R1417	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R1418	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R1419	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R1420	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
R1421	1-216-649-11	METAL CHIP 820 0.50% 1/10W	
R1422	1-216-085-00	METAL GLAZE 33K 5% 1/10W	
R1423	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
R1424	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R1425	1-216-013-00	METAL GLAZE 33 5% 1/10W	
R1426	1-216-113-00	METAL GLAZE 470K 5% 1/10W	
R1427	1-208-812-11	METAL CHIP 18K 0.50% 1/10W	
R1428	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W	
R1429	1-208-799-11	METAL CHIP 5.1K 0.50% 1/10W	
R1430	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R1431	1-216-129-00	METAL GLAZE 2.2M 5% 1/10W	
R1432	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
R1434	1-216-295-91	CONDUCTOR, CHIP	
R1436	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R1437	1-216-069-00	METAL GLAZE 6.8K 5% 1/10W	
R1438	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R1439	1-216-059-00	METAL GLAZE 2.7K 5% 1/10W	
R1440	1-216-041-00	METAL GLAZE 470 5% 1/10W	
R1441	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R1442	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R1443	1-216-013-00	METAL GLAZE 33 5% 1/10W	
R1444	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
R1445	1-216-071-00	METAL GLAZE 8.2K 5% 1/10W	
R1446	1-216-071-00	METAL GLAZE 8.2K 5% 1/10W	
R1447	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R1448	1-216-085-00	METAL GLAZE 33K 5% 1/10W	
R1449	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
R1450	1-216-129-00	METAL GLAZE 2.2M 5% 1/10W	
R1451	1-216-093-00	METAL GLAZE 68K 5% 1/10W	
R1452	1-216-085-00	METAL GLAZE 33K 5% 1/10W	
R1453	1-216-013-00	METAL GLAZE 33 5% 1/10W	
R1454	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R1455	1-216-113-00	METAL GLAZE 470K 5% 1/10W	
R1456	1-216-129-00	METAL GLAZE 2.2M 5% 1/10W	
R1457	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
R1458	1-216-085-00	METAL GLAZE 33K 5% 1/10W	
R1459	1-216-133-00	METAL GLAZE 3.3M 5% 1/10W	
R1460	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
R1461	1-216-645-11	METAL CHIP 560 0.50% 1/10W	
R1462	1-216-645-11	METAL CHIP 560 0.50% 1/10W	
R1463	1-216-645-11	METAL CHIP 560 0.50% 1/10W	
R1464	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
R1465	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
R1466	1-216-055-00	METAL GLAZE 1.8K 5% 1/10W	
R1467	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R1468	1-216-091-00	METAL GLAZE 56K 5% 1/10W	
R1469	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
R1470	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
R1471	1-216-049-91	METAL GLAZE 1K 5% 1/10W	
R1472	1-216-085-00	METAL GLAZE 33K 5% 1/10W	
R1473	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R1474	1-216-687-11	METAL CHIP 33K 0.50% 1/10W	
R1475	1-216-677-11	METAL CHIP 12K 0.50% 1/10W	
R1477	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
R1478	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W	
R1480	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
R1481	1-216-115-00	METAL GLAZE 560K 5% 1/10W	
R1482	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
R1483	1-216-089-00	METAL GLAZE 47K 5% 1/10W	

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- The components identified by ⌧ in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION				REMARK
R1484	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1485	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R1486	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R1487	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R1488	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R1489	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R1490	1-216-035-00	METAL GLAZE	270	5%	1/10W	
R1491	1-216-035-00	METAL GLAZE	270	5%	1/10W	
R1492	1-216-035-00	METAL GLAZE	270	5%	1/10W	
R1493	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R1494	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1495	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R1498	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R1499	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R1500	1-216-647-11	METAL CHIP	680	0.50%	1/10W	
R1501	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R1502	1-260-105-11	CARBON	3.3K	5%	1/2W	
R1503	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W	
R1504	1-208-817-11	METAL CHIP	30K	0.50%	1/10W	
R1505	1-247-688-11	CARBON	10	5%	1/4W	F
R1506	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R1507	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R1508	1-216-689-11	METAL GLAZE	39K	5%	1/10W	
R1510	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R1511	1-216-360-11	METAL OXIDE	8.2	5%	1W	F
R1512	1-216-647-11	METAL CHIP	680	0.50%	1/10W	
R1513	1-247-756-11	CARBON	2.2K	5%	1/2W	F
R1514	1-247-711-11	CARBON	680	5%	1/4W	F
R1515	1-216-350-11	METAL OXIDE	1.2	5%	1W	F
R1518	1-215-867-00	METAL OXIDE	470	5%	1W	F
R1519	1-216-355-11	METAL OXIDE	3.3	5%	1W	F
R1520	1-216-027-00	METAL GLAZE	120	5%	1/10W	
R1521	1-216-029-00	METAL GLAZE	150	5%	1/10W	
R1522	1-249-400-11	CARBON	39	5%	1/4W	F
R1523	1-216-350-11	METAL OXIDE	1.2	5%	1W	F
R1524	1-216-427-00	METAL OXIDE	120	5%	1W	F
R1525	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R1526	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R1527	1-249-413-11	CARBON	470	5%	1/4W	F
R1528	1-215-869-11	METAL OXIDE	1K	5%	1W	F
R1529	1-202-826-00	SOLID	4.7K	20%	1/2W	
R1530	1-216-115-00	METAL GLAZE	560K	5%	1/10W	
R1531	1-247-697-11	CARBON	56	5%	1/4W	F
R1532	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R1533	1-249-414-11	CARBON	560	5%	1/4W	F
R1534	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W	
⌧R1535⚠						
⌧R1536⚠						
R1537	1-249-389-11	CARBON	4.7	5%	1/4W	F
R1538	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1539	1-216-689-11	METAL GLAZE	39K	5%	1/10W	
R1540	1-216-105-91	METAL GLAZE	220K	5%	1/10W	
R1541	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1542	1-216-111-00	METAL GLAZE	390K	5%	1/10W	
R1543	1-216-027-00	METAL GLAZE	120	5%	1/10W	
R1544	1-216-117-00	METAL GLAZE	680K	5%	1/10W	
R1545	1-216-101-00	METAL GLAZE	150K	5%	1/10W	
R1547	1-216-393-00	METAL OXIDE	2.2	5%	3W	F
R1549	1-260-094-11	CARBON	390	5%	1/2W	
R1550	1-216-105-91	METAL GLAZE	220K	5%	1/10W	
R1551	1-249-393-11	CARBON	10	5%	1/4W	F
R1552	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R1554	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R1555	1-216-295-91	CONDUCTOR, CHIP				

REF.NO.	PART NO.	DESCRIPTION				REMARK
R1556	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R1557	1-218-760-11	METAL CHIP	220K	0.50%	1/10W	
R1558	1-249-393-11	CARBON	10	5%	1/4W	F
R1559	1-249-393-11	CARBON	10	5%	1/4W	F
R1560	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R1561	1-208-812-11	METAL CHIP	18K	0.50%	1/10W	
R1562	1-214-964-00	METAL	1M	1%	1/4W	
R1563	1-214-964-00	METAL	1M	1%	1/4W	
R1564	1-208-812-11	METAL CHIP	18K	0.50%	1/10W	
R1565	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R1566	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1567	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R1574	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R1575	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1576	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1577	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1578	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R1579	1-216-690-11	METAL CHIP	43K	0.50%	1/10W	
R2300	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R2301	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R2306	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R2307	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R2308	1-216-103-91	METAL GLAZE	180K	5%	1/10W	
R2309	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R2311	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2312	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R2315	1-208-810-11	METAL CHIP	15K	0.50%	1/10W	
R2316	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R2317	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R2320	1-216-677-11	METAL CHIP	12K	0.50%	1/10W	
R2323	1-208-814-11	METAL CHIP	22K	0.50%	1/10W	
R2325	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W	
R2326	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R2327	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R2328	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R2329	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R2330	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R2331	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R2332	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R2334	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R2335	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R2336	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R2337	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R2338	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2339	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R2341	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R2342	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R2344	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R2345	1-208-812-11	METAL CHIP	18K	0.50%	1/10W	
R2346	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R2347	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R2348	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R2349	1-208-810-11	METAL CHIP	15K	0.50%	1/10W	
R2350	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R2351	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R2352	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R2353	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R2354	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R2356	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R2357	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R2358	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R2362	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R2364	1-216-025-91	METAL GLAZE	100	5%	1/10W	

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION				REMARK
R2366	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R2367	1-216-095-00	METAL GLAZE	82K	5%	1/10W	
R2370	1-216-086-00	METAL GLAZE	36K	5%	1/10W	
R2371	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R2372	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R2374	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R2375	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R2376	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R2377	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R2378	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R2379	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R2380	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R2381	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R2382	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R2383	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R2384	1-216-689-11	METAL GLAZE	39K	5%	1/10W	
R2389	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R2394	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R2396	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R2397	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R2398	1-216-109-00	METAL GLAZE	330K	5%	1/10W	
R2399	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2500	1-216-647-11	METAL CHIP	680	0.50%	1/10W	
R2501	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R2502	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R2551	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R2552	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R2553	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R2555	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R2556	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W	
R2557	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R2558	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R2559	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R2560	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R2561	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R2562	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R2563	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R3001	1-249-393-11	CARBON	10	5%	1/4W	F
R3301	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R3302	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R3303	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R3304	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R3308	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R3311	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R3312	1-216-105-91	METAL GLAZE	220K	5%	1/10W	
R3315	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R3316	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R3318	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R3319	1-216-027-00	METAL GLAZE	120	5%	1/10W	
R3321	1-216-677-11	METAL CHIP	12K	0.50%	1/10W	
R3322	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R3333	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R3337	1-216-099-00	METAL GLAZE	120K	5%	1/10W	
R3338	1-216-103-91	METAL GLAZE	180K	5%	1/10W	
R3339	1-216-093-00	METAL GLAZE	68K	5%	1/10W	
R3340	1-216-099-00	METAL GLAZE	120K	5%	1/10W	
R3344	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R3345	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R3346	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R3347	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R3348	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R3349	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R3350	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R3351	1-216-119-00	METAL GLAZE	820K	5%	1/10W	

REF.NO.	PART NO.	DESCRIPTION				REMARK
R3376	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R3377	1-216-107-00	METAL GLAZE	270K	5%	1/10W	
R3378	1-216-115-00	METAL GLAZE	560K	5%	1/10W	
R3390	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R3394	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R3395	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R3396	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R3397	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R3398	1-216-101-00	METAL GLAZE	150K	5%	1/10W	
R4401	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R4402	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R4404	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R4405	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R4407	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R4408	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R4409	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R4410	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R4411	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R4412	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R4413	1-216-295-91	CONDUCTOR, CHIP				
R4414	1-216-295-91	CONDUCTOR, CHIP				
R4415	1-216-295-91	CONDUCTOR, CHIP				
R4416	1-216-295-91	CONDUCTOR, CHIP				

<VARIABLE RESISTOR>

RV501	1-223-102-00	RES, ADJ, WIREWOUND 120

<TRANSFORMER>

T300	1-406-781-11	COIL
T500	1-426-668-11	TRANSFORMER, FERRITE (HDT)
T501	⚠ 1-453-163-11	TRANSFORMER ASSY, FLYBACK

<THERMISTOR>

TH500	1-807-970-11	THERMISTOR

<CRYSTAL>

X101	1-579-175-11	VIBRATOR, CERAMIC
X300	1-577-259-11	VIBRATOR, CRYSTAL
X301	1-527-722-00	OSCILLATOR, CRYSTAL

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*A-1316-224-A G BOARD, COMPLETE
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1-533-189-11 HOLDER, FUSE (F601/F602)

<CAPACITOR>

C602	⚠ 1-136-360-51	FILM	0.22MF	20%	250V
C603	⚠ 1-136-360-51	FILM	0.22MF	20%	250V
C604	⚠ 1-161-741-21	CERAMIC	0.001MF	10%	400V
C605	⚠ 1-161-741-21	CERAMIC	0.001MF	10%	400V
C606	⚠ 1-161-741-21	CERAMIC	0.001MF	10%	400V
C607	⚠ 1-161-741-21	CERAMIC	0.001MF	10%	400V
C608	⚠ 1-161-953-71	CERAMIC	0.0047MF	20%	400V
C609	⚠ 1-161-953-71	CERAMIC	0.0047MF	20%	400V
C610	⚠ 1-161-953-71	CERAMIC	0.0047MF	20%	400V
C611	⚠ 1-161-953-71	CERAMIC	0.0047MF	20%	400V
C612	⚠ 1-137-484-61	FILM	0.47MF	10%	630V

G

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION			REMARK
C613	1-137-484-11	FILM	0.47MF	10%	630V
C614	1-129-720-00	FILM	0.033MF	10%	630V
C615	1-136-619-11	FILM	0.0016MF	3%	2KV
C616	1-126-967-11	ELECT	47MF	20%	35V
C617	1-136-557-11	FILM	0.0033MF	10%	630V
C618	1-126-096-11	ELECT	10MF	20%	25V
C619	1-124-911-11	ELECT	220MF	20%	50V
C620	1-161-754-00	CERAMIC	0.001MF	10%	2KV
C621	1-125-494-11	ELECT(BLOCK)	560MF	20%	160V
C622	1-102-038-00	CERAMIC	0.001MF		500V
C623	1-124-557-11	ELECT	1000MF	20%	25V
C626	1-102-038-00	CERAMIC	0.001MF		500V
C627	1-124-922-11	ELECT	1000MF	20%	50V
C630	1-124-907-11	ELECT	10MF	20%	50V
C631	1-136-853-11	FILM	0.56MF	5%	200V
C632	1-124-562-11	ELECT	47MF	20%	160V
C633	1-124-122-11	ELECT	100MF	20%	50V
C636	1-124-910-11	ELECT	47MF	20%	50V
C1601	1-137-484-11	FILM	0.47MF	10%	630V
C1602	1-137-484-11	FILM	0.47MF	10%	630V

<CONNECTOR>

CN601	1-691-960-11	PIN, CONNECTOR (PC BOARD) 3P
CN602	*1-695-561-11	PIN, CONNECTOR (PC BOARD) 7P
CN603	*1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P
CN605	*1-573-964-11	PIN, CONNECTOR (PC BOARD) 6P
CN606	*1-564-508-11	PLUG, CONNECTOR 5P

<DIODE>

D601 ⚠	8-719-032-39	DIODE DSA3A4-F3
D602 ⚠	8-719-032-39	DIODE DSA3A4-F3
D603 ⚠	8-719-032-39	DIODE DSA3A4-F3
D604 ⚠	8-719-032-39	DIODE DSA3A4-F3
D605	8-719-971-65	DIODE RGP15J-6040
D606	8-719-300-33	DIODE RU-3AM
D607	8-719-300-33	DIODE RU-3AM
D608	8-719-911-19	DIODE 1SS119-25
D609	8-719-300-33	DIODE RU-3AM
D610	8-719-300-33	DIODE RU-3AM
D612	8-719-045-48	DIODE FML-G12S
D614	8-719-045-48	DIODE FML-G12S
D616	8-719-300-33	DIODE RU-3AM
D617	8-719-110-46	DIODE RD16ESB3

<FERRITE BEAD>

FB601	1-410-396-41	FERRITE BEAD INDUCTOR 0.45UH
FB602	1-410-396-41	FERRITE BEAD INDUCTOR 0.45UH
FB603	1-410-396-41	FERRITE BEAD INDUCTOR 0.45UH
FB604	1-410-396-41	FERRITE BEAD INDUCTOR 0.45UH
FB605	1-410-396-41	FERRITE BEAD INDUCTOR 0.45UH

<IC>

IC601	8-749-924-69	IC STR-M6523
	4-382-854-11	SCREW (M3X10), P, SW (+); IC601
IC602	8-749-010-47	IC STR-S3115
	4-382-854-11	SCREW (M3X10), P, SW (+); IC602
IC603	8-759-701-56	IC NJM78M05FA
	4-382-854-11	SCREW (M3X10), P, SW (+); IC603

<COIL>

L601	1-411-215-11	COIL, CHOKE 200UH

REF.NO.	PART NO.	DESCRIPTION				REMARK
L1601	1-410-679-31	INDUCTOR	270UH			

<PHOTO COUPLER>

PH601	8-749-923-50	PHOTO COUPLER PC111YS

<TRANSISTOR>

Q601	8-729-140-96	TRANSISTOR 2SD774-34
Q603	8-729-303-61	TRANSISTOR 2SC3851-G
	4-382-854-11	SCREW (M3X10), P, SW (+); Q603

<RESISTOR>

R601 ⚠	1-202-885-91	SOLID	1M	20%	1/2W	
R602	1-216-489-11	METAL OXIDE	27K	5%	3W	F
R603	1-216-491-11	METAL OXIDE	56K	5%	3W	F
R604	1-249-418-11	CARBON	1.2K	5%	1/4W	
R605	1-249-415-11	CARBON	680	5%	1/4W	
R606	1-207-642-00	WIREWOUND	0.15	10%	3W	F
R607	1-249-423-11	CARBON	3.3K	5%	1/4W	
R608	1-249-426-11	CARBON	5.6K	5%	1/4W	
R609	1-249-426-11	CARBON	5.6K	5%	1/4W	
R610	1-249-421-11	CARBON	2.2K	5%	1/4W	
R611	1-249-417-11	CARBON	1K	5%	1/4W	
R612	1-249-404-00	CARBON	82	5%	1/4W	
R613	1-249-419-11	CARBON	1.5K	5%	1/4W	
R614	1-249-385-11	CARBON	2.2	5%	1/4W	F
R615	1-218-265-11	METAL	8.2M	5%	1W	
R616	1-216-341-11	METAL OXIDE	0.22	5%	1W	F
R617	1-216-341-11	METAL OXIDE	0.22	5%	1W	F
R619	1-216-341-11	METAL OXIDE	0.22	5%	1W	F
R621	1-215-877-11	METAL OXIDE	22K	5%	1W	F
R622	1-247-700-11	CARBON	100	5%	1/4W	
R623	1-249-417-11	CARBON	1K	5%	1/4W	
R624	1-216-341-11	METAL OXIDE	0.22	5%	1W	F
R631	1-247-807-31	CARBON	100	5%	1/4W	
R1601	1-215-869-11	METAL OXIDE	1K	5%	1W	F
R1602	1-215-869-11	METAL OXIDE	1K	5%	1W	F
R1603	1-202-846-00	SOLID	470K	20%	1/2W	

<RELAY>

RY601 ⚠	1-515-738-11	RELAY

<TRANSFORMER>

T601 ⚠	1-426-716-11	TRANSFORMER, LINE FILTER (LFT)
T602 ⚠	1-426-716-11	TRANSFORMER, LINE FILTER (LFT)
T603	1-427-885-11	TRANSFORMER, CONVERTER (SRT)

<THERMISTOR>

THP601 ⚠	1-808-059-32	THERMISTOR, POSITIVE

<VARISTOR>

VDR601 ⚠	1-809-942-71	VARISTOR
VDR1601	1-809-942-71	VARISTOR

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The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION				REMARK
	*A-1331-299-A	C BOARD, COMPLETE *****************				
	*4-374-912-01	COVER (MAIN), CV VOL				
	*4-374-913-01	COVER (REAR LID), CV VOL				

<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
C701	1-102-157-00	CERAMIC	560PF	10%	500V	
C702	1-102-157-00	CERAMIC	560PF	10%	500V	
C703	1-102-157-00	CERAMIC	560PF	10%	500V	
C704	1-102-121-00	CERAMIC	0.0022MF	10%	50V	
C705	1-104-665-11	ELECT	100MF	20%	16V	
C706	1-102-074-00	CERAMIC	0.001MF	10%	50V	
C707	1-162-116-00	CERAMIC	680PF	10%	2KV	
C708	1-136-601-11	FILM	0.01MF	5%	630V	
C710	1-101-880-00	CERAMIC	47PF	5%	50V	
C711	1-101-880-00	CERAMIC	47PF	5%	50V	
C712	1-101-880-00	CERAMIC	47PF	5%	50V	
C713	1-123-946-00	ELECT	4.7MF	20%	250V	
C714	1-102-976-00	CERAMIC	180PF	5%	50V	
C715	1-102-976-00	CERAMIC	180PF	5%	50V	
C716	1-102-976-00	CERAMIC	180PF	5%	50V	
C717	1-107-372-11	MYLAR	0.22MF	10%	200V	
C718	1-107-372-11	MYLAR	0.22MF	10%	200V	
C720	1-108-700-11	MYLAR	0.047MF	10%	200V	
C734	1-102-973-00	CERAMIC	100PF	5%	50V	
C735	1-102-816-00	CERAMIC	120PF	5%	50V	
C736	1-102-816-00	CERAMIC	120PF	5%	50V	

<CONNECTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
CN701	*1-564-511-11	PLUG, CONNECTOR 8P	
CN702	*1-573-964-11	PIN, CONNECTOR (PC BOARD) 6P	
CN703	*1-691-134-11	PIN, CONNECTOR (PC BOARD) 2P	

<DIODE>

REF.NO.	PART NO.	DESCRIPTION	REMARK
D701	8-719-911-19	DIODE 1SS119-25	
D702	8-719-911-19	DIODE 1SS119-25	
D703	8-719-911-19	DIODE 1SS119-25	
D704	8-719-911-19	DIODE 1SS119-25	
D705	8-719-911-19	DIODE 1SS119-25	
D706	8-719-911-19	DIODE 1SS119-25	
D707	8-719-901-83	DIODE 1SS83	
D708	8-719-901-83	DIODE 1SS83	
D709	8-719-901-83	DIODE 1SS83	
D713	8-719-901-83	DIODE 1SS83	
D715	8-719-901-83	DIODE 1SS83	
D716	8-719-901-83	DIODE 1SS83	
D717	8-719-901-83	DIODE 1SS83	

<SOCKET>

REF.NO.	PART NO.	DESCRIPTION	REMARK
J701	⚠ 1-526-819-11	SOCKET, PICTURE TUBE	

<COIL>

REF.NO.	PART NO.	DESCRIPTION		REMARK
L701	1-410-667-31	INDUCTOR	22UH	
L705	1-412-532-11	INDUCTOR	39UH	

<TRANSISTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
Q701	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q702	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q703	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q704	8-729-200-17	TRANSISTOR 2SA1091-0	
Q705	8-729-200-17	TRANSISTOR 2SA1091-0	
Q706	8-729-200-17	TRANSISTOR 2SA1091-0	
Q707	8-729-326-11	TRANSISTOR 2SC2611	
Q708	8-729-326-11	TRANSISTOR 2SC2611	
Q709	8-729-326-11	TRANSISTOR 2SC2611	
Q710	8-729-200-17	TRANSISTOR 2SA1091-0	
Q711	8-729-200-17	TRANSISTOR 2SA1091-0	
Q712	8-729-200-17	TRANSISTOR 2SA1091-0	
Q713	8-729-255-12	TRANSISTOR 2SC2551-0	
Q714	8-729-255-12	TRANSISTOR 2SC2551-0	
Q715	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q716	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q717	8-729-119-78	TRANSISTOR 2SC2785-HFE	

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
R702	1-247-903-00	CARBON	1M	5%	1/4W	
R704	1-215-405-00	METAL	220	1%	1/4W	
R705	1-215-405-00	METAL	220	1%	1/4W	
R706	1-215-405-00	METAL	220	1%	1/4W	
R707	1-249-431-11	CARBON	15K	5%	1/4W	
R708	1-249-431-11	CARBON	15K	5%	1/4W	
R709	1-249-431-11	CARBON	15K	5%	1/4W	
R710	1-215-391-00	METAL	56	1%	1/4W	
R711	1-215-394-00	METAL	75	1%	1/4W	
R712	1-215-392-00	METAL	62	1%	1/4W	
R715	1-202-818-00	SOLID	1K	20%	1/2W	
R716	1-216-486-00	METAL OXIDE	8.2K	5%	3W	F
R717	1-202-818-00	SOLID	1K	20%	1/2W	
R718	1-216-486-00	METAL OXIDE	8.2K	5%	3W	F
R719	1-202-818-00	SOLID	1K	20%	1/2W	
R720	1-216-486-00	METAL OXIDE	8.2K	5%	3W	F
R722	1-202-883-11	SOLID	680K	20%	1/2W	
R723	1-202-838-00	SOLID	100K	20%	1/2W	
R724	1-202-842-11	SOLID	220K	20%	1/2W	
R725	1-202-719-00	SOLID	1M	20%	1/2W	
R731	1-247-815-91	CARBON	220	5%	1/4W	
R732	1-247-815-91	CARBON	220	5%	1/4W	
R733	1-247-815-91	CARBON	220	5%	1/4W	
R734	1-249-409-11	CARBON	220	5%	1/4W	F
R735	1-249-409-11	CARBON	220	5%	1/4W	F
R736	1-249-409-11	CARBON	220	5%	1/4W	F
R737	1-247-807-31	CARBON	100	5%	1/4W	
R738	1-247-807-31	CARBON	100	5%	1/4W	
R739	1-247-807-31	CARBON	100	5%	1/4W	
R740	1-249-429-11	CARBON	10K	5%	1/4W	F
R741	1-249-429-11	CARBON	10K	5%	1/4W	F
R742	1-249-429-11	CARBON	10K	5%	1/4W	F
R744	1-249-429-11	CARBON	10K	5%	1/4W	
R745	1-249-429-11	CARBON	10K	5%	1/4W	
R746	1-215-879-11	METAL OXIDE	47K	5%	1W	F
R747	1-247-725-11	CARBON	10K	5%	1/4W	F
R748	1-249-923-11	CARBON	1K	5%	1/4W	F
R749	1-215-902-11	METAL OXIDE	47K	5%	2W	F
R750	1-249-400-11	CARBON	39	5%	1/4W	F
R751	1-247-887-00	CARBON	220K	5%	1/4W	
R752	1-247-887-00	CARBON	220K	5%	1/4W	
R753	1-247-887-00	CARBON	220K	5%	1/4W	

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

<VARIABLE RESISTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
RV707	1-230-641-11	RES, ADJ, METAL GLAZE 2.2M	
RV708	⚠ 1-230-619-11	RES, ADJ, METAL GLAZE 110M	
RV709	1-230-641-11	RES, ADJ, METAL GLAZE 2.2M	

* * *

REF.NO.	PART NO.	DESCRIPTION	REMARK
	*A-1371-972-B	H BOARD, COMPLETE	
	*4-348-208-00	HOLDER, LED	

<CONNECTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
CN105	*1-564-527-11	PLUG, CONNECTOR 12P	
CN106	*1-564-526-11	PLUG, CONNECTOR 11P	

<DIODE>

REF.NO.	PART NO.	DESCRIPTION	REMARK
D2102	8-719-920-05	DIODE SLP281C-50	

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
R2101	1-249-419-11	CARBON 1.5K 5% 1/4W	
R2107	1-249-430-11	CARBON 12K 5% 1/4W	
R2139	1-249-414-11	CARBON 560 5% 1/4W	
R2140	1-249-414-11	CARBON 560 5% 1/4W	
R2142	1-249-414-11	CARBON 560 5% 1/4W	
R2143	1-249-414-11	CARBON 560 5% 1/4W	
R2144	1-249-414-11	CARBON 560 5% 1/4W	
R2145	1-249-414-11	CARBON 560 5% 1/4W	
R2150	1-215-409-00	METAL 330 1% 1/4W	
R2151	1-215-407-00	METAL 270 1% 1/4W	
R2152	1-215-404-00	METAL 200 1% 1/4W	
R2153	1-215-401-11	METAL 150 1% 1/4W	
R2154	1-215-399-00	METAL 120 1% 1/4W	
R2155	1-215-397-00	METAL 100 1% 1/4W	
R2156	1-215-421-00	METAL 1K 1% 1/4W	
R2157	1-215-416-00	METAL 620 1% 1/4W	
R2158	1-215-410-00	METAL 360 1% 1/4W	
R2159	1-215-405-00	METAL 220 1% 1/4W	
R2160	1-215-421-00	METAL 1K 1% 1/4W	

<VARIABLE RESISTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
RV2101	1-223-504-21	RES, VAR, CARBON 20K	
RV2103	1-223-735-11	RES, VAR, CARBON 20K	
RV2105	1-223-735-11	RES, VAR, CARBON 20K	
RV2109	1-223-735-11	RES, VAR, CARBON 20K	
RV2113	1-223-735-11	RES, VAR, CARBON 20K	
RV2117	1-223-504-21	RES, VAR, CARBON 20K	

<SWITCH>

REF.NO.	PART NO.	DESCRIPTION	REMARK
S2101	1-570-101-41	SWITCH, KEY BOARD	
S2102	1-570-101-41	SWITCH, KEY BOARD	
S2103	1-570-101-41	SWITCH, KEY BOARD	
S2104	1-570-101-41	SWITCH, KEY BOARD	
S2106	1-570-969-11	SWITCH, KEY BOARD	
S2107	1-570-969-11	SWITCH, KEY BOARD	
S2108	1-570-101-41	SWITCH, KEY BOARD	
S2109	1-570-101-41	SWITCH, KEY BOARD	
S2113	1-570-969-11	SWITCH, KEY BOARD	
S2114	1-570-969-11	SWITCH, KEY BOARD	

* * *

REF.NO.	PART NO.	DESCRIPTION	REMARK
	*A-1388-166-A	J BOARD, COMPLETE	

<CONNECTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
CN608	*1-695-561-11	PIN, CONNECTOR (PC BOARD) 7P	

<SWITCH>

REF.NO.	PART NO.	DESCRIPTION	REMARK
S601	⚠ 1-692-921-11	SWITCH, PUSH (A.C. POWER)	

* * *

MISCELLANEOUS

REF.NO.	PART NO.	DESCRIPTION	REMARK
	⚠ 1-426-442-21	COIL, DEMAGNETIZATION	
	1-537-735-31	TERMINAL BOARD ASSY, I/O (C)	
	1-544-063-12	SPEAKER	
	⚠ 1-576-230-11	FUSE (H.B.C.) (3.15A/250V)	
	⚠ 8-451-329-12	DEFLECTION YOKE (Y14FZAM)	
V901	⚠ 8-736-255-05	PICTURE TUBE (14FX)	

* * *

ACCESSORIES & PACKING MATERIALS

REF.NO.	PART NO.	DESCRIPTION	REMARK
	⚠ 1-551-631-22	CORD, POWER (6.0A/250V)	
	3-170-078-01	HOLDER (B), PLUG	
	3-798-876-11	MANUAL, INSTRUCTION	
	*4-043-762-01	CUSHION (UPPER) (ASSY)	
	*4-043-763-01	CUSHION (LOWER) (ASSY)	
	*4-049-217-01	INDIVIDUAL CARTON	
	*4-381-155-01	BAG, PROTECTION	

9-920-607-01

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